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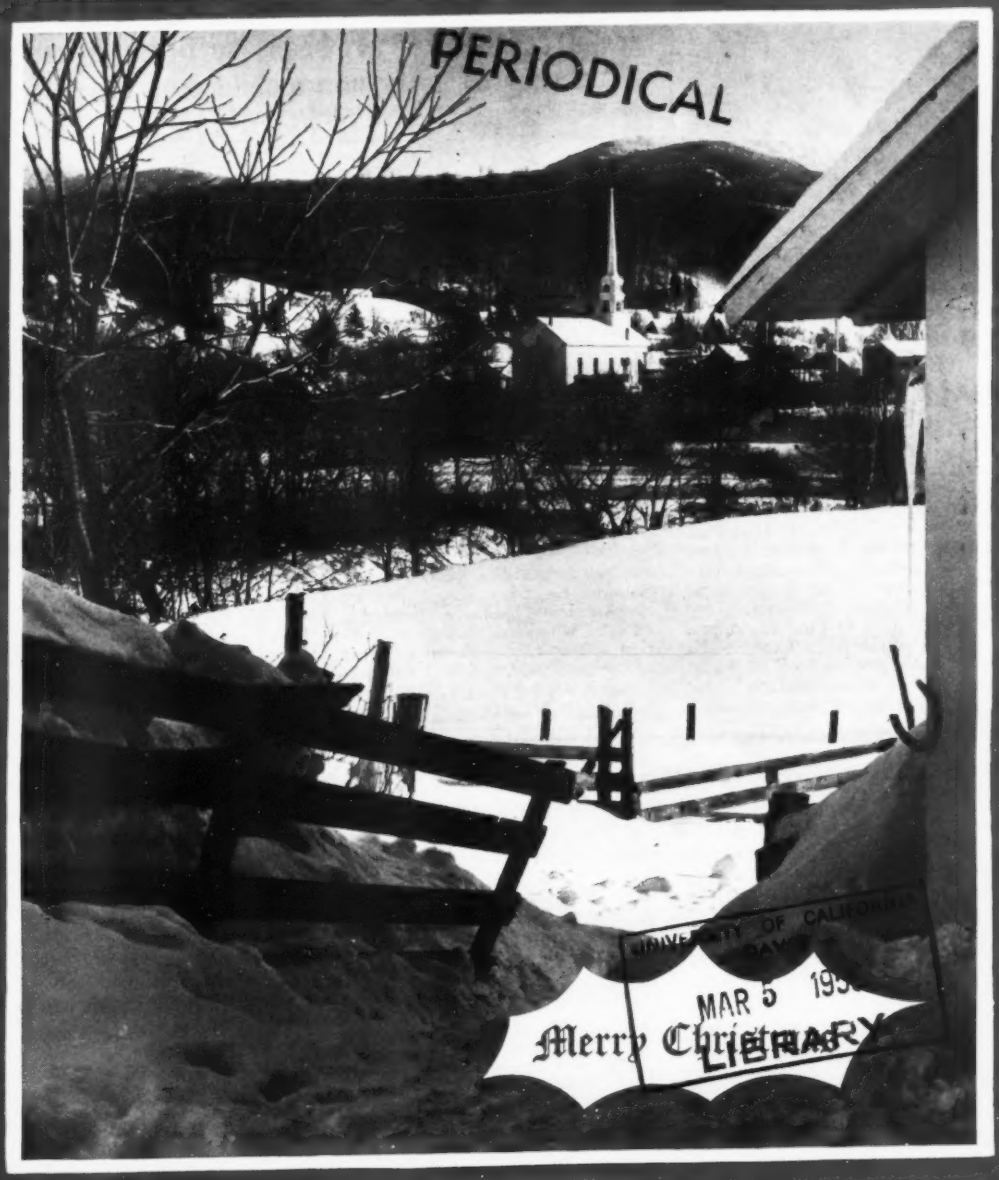
ELECTRICITY ON THE FARM *Magazine*

DECEMBER, 1954

Better Cured Sweet Potatoes . .
Packaging Produces Profits . . .
Heated Concrete Calf Mats . . .
Washable Electric Blankets . . . .
Easy Access Egg Storage Rack .

—— 27th Year ——



A CASE-SHEPPERD-MANN PUBLICATION

Ask for G-E Motors and Control on all Electrified Farm Equipment you buy!

GENERAL ELECTRIC FarmNews

Ask for G-E Motors and Control on all Electrified Farm Equipment you buy!

MORE POWER TO THE AMERICAN FARMER through more electricity on the farm

FORCED DRYING MAKES EXTRA CROP POSSIBLE

EFFICIENT, ECONOMICAL new heater keeps milk house warm automatically.

HEATS MILK HOUSE ALL WINTER FOR LESS THAN $15

Mr. Richard J. Ertel of Mendon, N. Y. has found an inexpensive way to end his worries over frozen milk house pipes. He has installed an electric milk house heater. He sets the thermostat at 40° in September and the heater automatically keeps the milk house at that temperature all winter for less than 15 dollars.

"This electric heater has solved a lot of problems for me," says Mr. Ertel. "The fan-circulated heat keeps the whole milk house warm and dry, and I don't have to worry about any danger of fire."

No matter how long it has been operating, the heater is never too hot to touch. The secret is the General Electric Calrod* heating element, insulated and embedded in a finned aluminum casting. In addition, the totally enclosed G-E fan motor is highly resistant to milk-house humidity.

For details check coupon.

Farmer can harvest soy beans up to three weeks earlier by using new mobile crop dryer

TWO FOR THE MONEY! This arrangement allows farmer to dry soy beans in two wagons at once, saving time and expense. Y-shaped canvas tunnel carries hot air.

Bad weather at harvest time and high moisture in storage can mean a 10 to 50% loss in grain crops. Mr. Fred Heath of Milan, Mich., depends on his new mobile crop dryer to reduce this danger.

"This new crop dryer has made harvesting a lot quicker, because now I don't have to wait for crops to dry naturally," says Mr. Heath, "and by being able to dry and store early, I can get up to 75 cents more a bushel for my soy beans." Mr. Heath said that he now had time to plant an extra crop of winter wheat.

Powered by a rugged G-E Tri-Clad* 5-hp motor and using a dependable G-E ignition transformer on its oil heating unit, this new crop dryer is fast and economical—can be used on all sorts of crops. Check coupon for details.

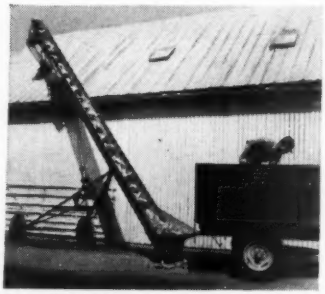
*Registered Trademark of General Electric Co.

FIRST LIGHTWEIGHT ELEVATOR ABLE TO HANDLE BALES, EAR CORN, GRAIN, SAVES FARMER TIME AND LABOR

One of the latest developments in farm equipment is this new, lightweight aluminum elevator designed to handle bales, as well as small grain and ear corn.

Here's what Mr. Vance C. Hendricks, of Franklin, Ohio, has to say about his new multi-purpose elevator: "For my money, this new elevator is the best buy a farmer can make if he wants something that will help move grain. I use it for filling my cribs and bins and loading out into a truck."

Engineered for economy and powered for performance by a rugged G-E motor, this amazing crop handler makes many hard jobs easy. For more information check "elevator" on coupon at right.



FAST DELIVERY of ear corn, ensilage, bales, etc. is easy with new elevator.

GENERAL ELECTRIC COMPANY
Section 330-5B, Schenectady 5, N. Y.

I would like additional information on the following equipment.

- ☐ Mobile Crop Dryer
- ☐ Milk House Heater
- ☐ Elevator
- ☐ How To Choose Your Motor

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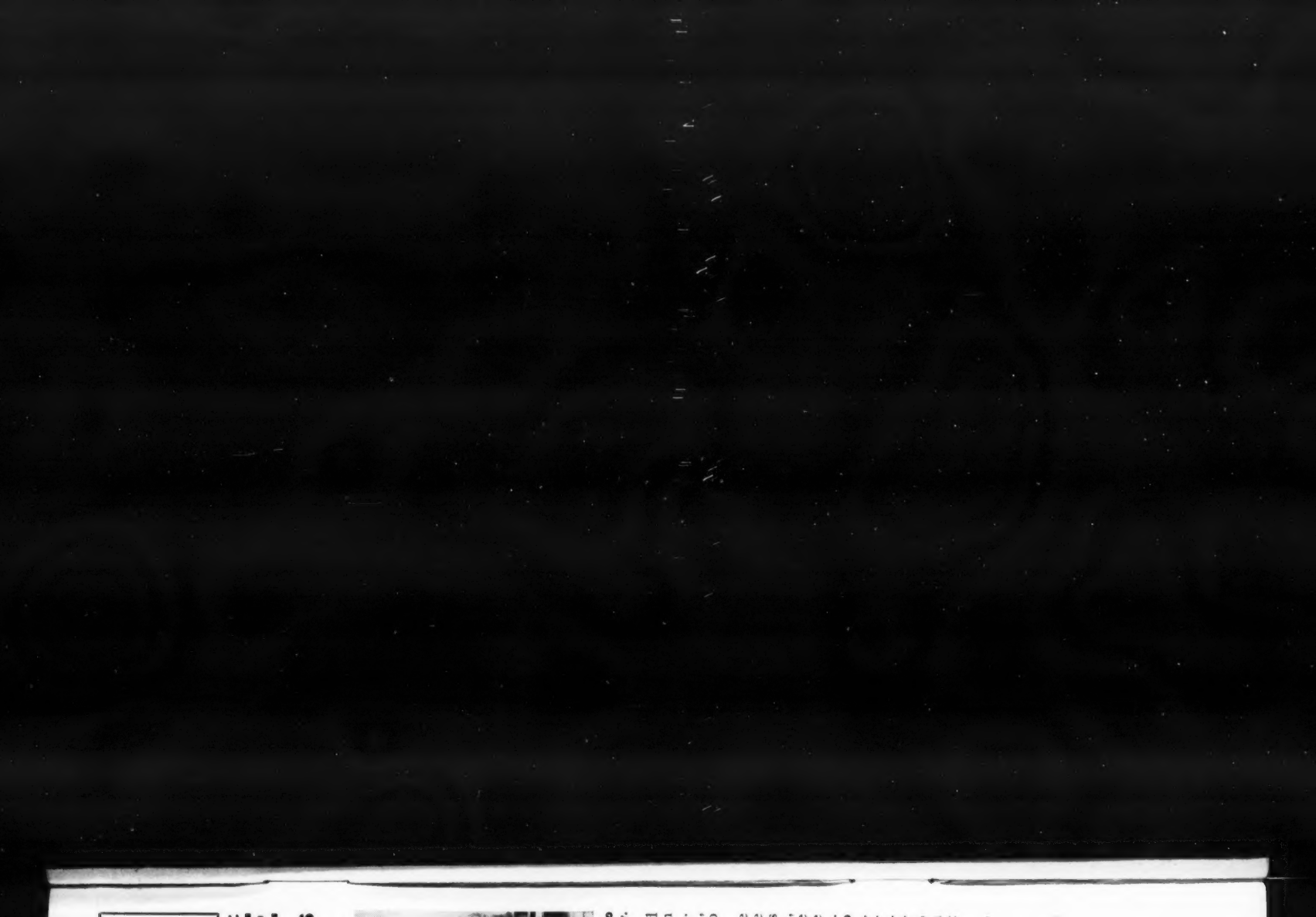
CITY_____ STATE_____



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Editor's Chat

HEAR THOSE BELLS

Don't look now, but we can just about hear those Christmas bells ringing. It's almost past time to make up your Christmas list and write your letter to Santa for what you want. We trust you have been good enough to deserve well from St. Nick and just want to remind you that electrical gifts are always welcome and everyone in the family enjoys them all year long.

TOSSED GREEN SALAD

Being masculine and one of those who cares little for salads and such-like "rabbit-food", we sometimes wonder whether there can be any correlation between the women liking salads and the cows liking silage. It is perhaps idle to speculate on that, but it does pay to speculate on ways and means of handling such bulky materials, (referring to the silage) with the least amount of labor.

What with blowers and elevators, we have the filling of a silo reduced to what seems to us today to be its simplest form. Doubtless present methods will be obsolete and seem laborious before very long. However, getting the silage out is still a disagreeable chore on most farms and climbing a slippery ladder on a cold, windy day and digging frozen silage loose and forking it down a chute is still something too many of you have to do.

Fortunately, the inventors and manufacturers are working at this problem from both ends. Some are building silo unloaders that work from the top and others have devised a system to unload from the bottom. When these two systems "meet in the middle" the problem should be solved, as far as which is the better way to unload a silo is concerned. Both types have very definite advantages.

We offer the suggestion that you try a mechanical silo unloader now and don't wait until all the problems are solved and the best way to do the job is finally decided. That might turn out to be a long, tedious wait, and your back may not be up to it.

ADVERTISEMENTS FOR EDUCATION

Here is a thought we would like to pass along for your consideration. The cost to the advertiser for space in a magazine or for time on radio or television is pretty high according to the standards of most of us who farm or tread the ordinary paths of life. They don't waste money on products that lack sufficient merit to win public acceptance and approval and they pay experts pretty well to tell the most in the fewest words or space of time. It seems to follow, then, that reading the ads and following radio and television commercials can, perhaps, give one the most information about products both old and new in a sort of "pellet" form. Moreover, almost all of the publications and broadcasters go to considerable pains to screen out the false or undesirable and advertise only what they are reasonably sure is good. They are in a better position to do such screening than most of us and it is a service we should appreciate, along with the information we get. So, with all due modesty, we recommend the careful study and consideration of what is offered in our advertising pages.

PARTY TIME

The holiday season is the time for parties of all sorts—for both old and young. Perhaps your home is one of those where both age groups combine and play together. On the other hand, maybe you are one of those who gather with some other "old" folks to have a quiet game of some sort, while the youngsters go off somewhere on their own. If you want to stay young, keep with the young folks; if you want to feel old, try to keep UP with them. Parties for all of us, young and old together, are of sufficient importance to warrant careful thought and planning. They are an important part of *living*.

OUR WISH THIS CHRISTMAS

The test for any article we publish is: Will it help the reader? We hope we have provided you with information that has been helpful. If we have, our wish is fulfilled.

Jim Ridout

ELECTRICITY ON THE FARM *Magazine*

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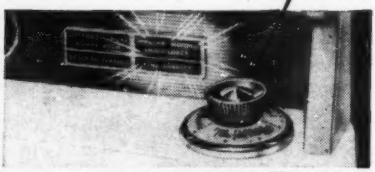
This New 1955 Kelvinator

has 2 completely automatic washing cycles!

Model AW-2 Washer

Model DE-2 Dryer



Exclusive "Tel-A-Fabric" Signal Lights. Blue, gold and chrome backguard with full-width fluorescent flood light.

See the Kelvinator Semi-Automatic and Wringer Washers, too!

New semi-automatic Kelvinator with exclusive Shampoo Washing, X-Centric Agitation and Overflow Rinsing features. Model SW.

Kelvinator quality built Wringer Washers. Sturdily built, full 9 lb. capacity. Power driven pump optional. Model WB.

Beautiful new Kelvinator is truly two complete automatic washers in one!

Yes, the new 1955 Kelvinator really does give you two washers in one. One cycle for full loads and regular washing—another scientifically designed to be perfect for fine fabrics and small loads, and they *both are completely automatic.*

Kelvinator's sensational new short cycle for synthetic and fine fabrics is so gentle, like the hand washing you now are doing. It's the miracle way to do the miracle fabrics. And this new "Fine Fabrics" cycle saves you ½ the soap and hot water, takes only ½ the time.

And every step in every phase of *both* washing cycles is completely automatic and scientifically accurate . . . automatic water fill, automatic temperature control, automatic timing control.

See the only washer that is two automatic washers in one, today!

Kelvinator

Division of American Motors Corporation, Detroit 32, Michigan

Heated Concrete Calf Mats

Yield Warm Dry Environment Without Bedding

By HUGH J. HANSEN

Several Indiana farmers are raising calves without the use of straw bedding. They are using electrically heated concrete mats as a substitute for conventional bedding materials. These portable mats, developed by Purdue Agricultural Engineers, keep the young calves warm, clean, and healthy during freezing temperatures.

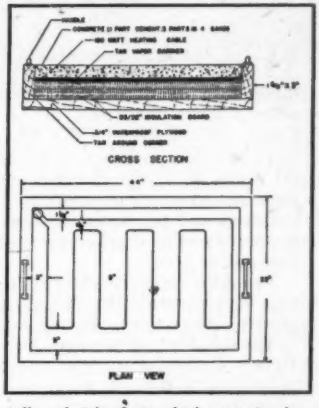
The electric heat mat is portable and can be moved from pen to pen by two men. Complete units weigh from 250 to 300 pounds. The mat is constructed of concrete, plywood, and insulation board with resistance type electric heating wire buried in the concrete. The insulation board, which is coated on both sides with tar to prevent moisture from destroying insulation qualities, makes the mat very efficient since only a small amount of heat is transmitted to the floor. A 2″ x 3″ lumber frame is used with a ¾″ moisture-proof type plywood on the bottom side. All joints and corners are sealed with tar to keep the moisture from entering the insulation board. A concrete mixture of four parts sand to one part cement is used. The heating cable is buried about ½ inch below the surface of the concrete. The concrete surface is finished with a wood float to provide a surface which affords good footing and it is slightly crowned to insure good drainage. The concrete may be reinforced with chicken wire netting.

Usually the calves are placed on these electrically heated mats at about 3 or 4 days of age and kept on them until they reach the age of 8 or 10 weeks. Conventional barns or calf sheds which have no insulation or other supplemental heat are used to house the calves. No straw or other type of bedding is used with these mats. The heat from the mat quickly dries any urine or manure droppings which fall on the mat and the surface is readily cleaned by sweeping or scraping.

Different methods of control have been used on the mats. Some people prefer to plug them directly into 115 volt outlets and unplug them manually during warm periods. The 180 watt element will not build up too much heat for the calf if left on 115 volts continuously. Others choose to use automatic controls on the mats, either thermostatic or time-interval. On the thermostatic controls, the sensing element is placed either on the stall wall or buried with the heating element in the concrete. The wall-mounted thermostat turns the unit on or off when barn temperatures change. The surface-mounted sensing element controls according to surface temperature and indications are that this is the better method of control, although it is more difficult to install and service. The time-interval controller merely turns the mat on a certain portion of the time, as six minutes out of every ten.

Several installations have been observed and in all cases the calves appeared to be comfortable when lying directly on the concrete with no other bedding. No instances have been detected of any skin abrasion or irritation from the calf's lying directly on the concrete surface. In some cases, it is reported that the calves on the warm concrete mats are more contented and lie down more of the time than calves on conventional beddings. No trouble is encountered in keeping the calves clean. Growth appears to be normal.

The main advantages of these concrete electric heat mats for calves are (1) decreased cost of bedding as compared to straw



A line sketch of a typical concrete electric heat mat. It is placed in one corner of the calf pen. A guard is used to protect the cord from damage by calf.

or corn cobs in some areas, (2) greater calf pen sanitation and (3) the addition of supplemental heat very economically and safely. The electrical consumption for these mats has varied from 70 kwhr to 135 kwhr per month depending upon barn temperatures, size of heating cable used and type of control.

This two week old calf has been on the mat since the age of 72 hours. It has remained warm, comfortable, contented, and vigorous at all times.

Packaging Produces Profits

Surplus Radishes Become Bonanza After Processing

By J. H. METCALF and R. E. JOHNSON

Three of the busiest people at Ohio Farmers are shown here. Left to right, they are: Andrew Couch, secretary; Lucile Hefflenger, forewoman; and Franklin Goede, president.

What to do with a surplus of the red, spicy salad vegetable was a serious problem to several farmer-partners at McClure, Ohio, early in 1953. They were growing radishes on about 90 acres of irrigated muckland they owned near Zellwood, Florida, and had produced an oversupply for the market in their immediate area.

Franklin Gaede is the partner who first planned the vegetable growing project. The idea flashed in his mind when he visited the 19,000 acre tract of virgin muckland near Zellwood, Florida, in 1948. When he returned to Ohio he told the story and outlined his business dream to a good friend. In 1949 they went south to study the land. After their return to Ohio, each interested a friend in the venture and they purchased 90 acres of the black muck, in 1950, and cleared it. The first plantings featured sweet corn, cabbage, turnips, radishes and mustard greens, which they planned to sell in a few northern markets. While the operators made a lean profit in 1950, the first year of the adventure, they dropped in the "red" the first part of 1951 and rented out half of their 90 acres of muckland. The rest was devoted to radishes, which finally created their surplus problem.

Two of the partners, George Weasel, Jr., and G. R. Schey, were discussing their plight one day when Mr. Weasel said, "Why don't we try packaging our radishes? Top them, wash and grade them, and put them in polyethylene plastic bags. The housewife will be getting something different. The radishes will be ready for the table. She might like the change."

Mr. Schey agreed that the plan might have merit. He recalled that merchandising experts for modern food stores feel that the package sells the product. "Let's give it a trial," he said.

The men took 37 bushels of radishes north to McClure in a refrigerated truck, topped, graded and packaged them by hand and then peddled the new packs to food stores in the immediate vicinity. Store managers would not buy them, Mr. Gaede recalled, but most of them would give the new packages display space. That was all that was needed to convince everyone of the customer's desires.

The partners started bagging radishes in February 1953 and in a little more than a year, grossed nearly ¾ of a million dollars. Wow!

This past summer, only a few months after launching an attractive cello-package, they were rushing hundreds of baskets of radishes, weekly, from their McClure processing plant. Refrigerated trucks delivered the radishes to food stores just about everywhere east of the Mississippi River. Deliveries were averaging 450 tons a month.

The mounting demand for packaged radishes has forced the group, now known as Ohio Farmers, Inc., to extend its Flor-

Here, the women workers are sealing radishes in small cello-sacks. They come from the packaging machines at the rate of 150 a minute.

ida plantings to provide larger harvests. Today 80 workers crop 100 acres each week. Demand is still exceeding supply at the present production level.

Radishes are cropped three or four times a year in most muckland areas and yields run from 100 to 200 crates per acre, depending on weather conditions. Crates weigh 38 pounds and the return has been averaging around 5½ cents a pound.

The crop is lifted or harvested, topped, washed, and graded on the field; then transported in refrigerated trucks to McClure for processing. The processing plant is a big remodeled farm barn. It contains a large processing room, a big store room for baskets and other supplies, a large cold storage room, and an office.

In the processing room a force of 35 women and 10 men operate six automatic bagging machines, fill delivery baskets with packages of radishes, and put them into cold storage. A basket holds 24 packages of No. 8 size pack and 30 packages of the No. 6 size. The crisp tubers are kept fresh and cool from harvesting to the moment the housewife picks them up in the food stores. Twenty different electric motors operate the bagging machines, conveyors, and refrigeration units. Record output was achieved Easter week this year when the workers filled 30,000 baskets for the holiday trade.

Wells Kelly, storage worker, at the rear of the cold room, skidding baskets of radishes to the delivery trucks. He despatches some 450 tons of packaged tubers every month. The refrigeration unit is at the right. Note the roller conveyor on which the baskets ride. Good handling methods are used throughout this operation.

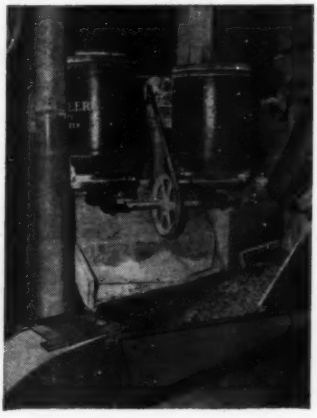
Crisp, delicious radishes are packaged by fast power-driven machines in this remodeled barn near McClure, Ohio. The three power wires shown, supply the 200 ampere entrance switch. It takes twenty different motors to run the bagging machines, conveyors, and refrigeration units. This last is very important. From the time they are harvested right up until the housewife buys them, the radishes are kept at a cool, quality-saving temperature. The refrigerated trucks shown here are used to transport the radishes from Florida and to deliver them to the markets.

The program for 1955 calls for more acres of radishes in Florida, with new crop production in good irrigated muckland regions of Ohio, Michigan, and Indiana. A processing plant is planned for Florida.

Every member of the group agrees it's been a fast, thrilling business experience. Because the population of the U. S. is growing by leaps and bounds, there will be room for many more vegetable growers and merchandisers who will package their harvests attractively for consumers' tables.

Supplement Metering Device

Two fertilizer boxes powered by a ⅓ hp electric motor are used by Warren A. Hall, RR 2, Bradford, Illinois, to add minerals and antibiotics to his hog feeding ration. Mineral is in one box and aureomycin in the other.



The attachment is mounted overhead, so that the mineral and antibiotic flow directly into the hammermill as the feed mixture is being ground. Shelled corn comes down from above through a chute. Oats are also located in a bin above, so they can flow down by gravity when they are wanted in the ration.

A gear reduction of 57 to 1 is used to reduce motor speed. A belt, driven by the gears, further reduces the speed of the shaft at the boxes to 13 r.p.m. Hall has found this speed to be ideal.

Old fertilizer attachments such as these can be bought cheaply from implement dealers who have them from old or junked implements. They provide an inexpensive labor saving method for adding supplemental rations to livestock feed.

Better Cured Sweet Potatoes

From Small, Farm Storages

By JOHN T. CUTCHIN and J. H. McBRAYER, JR.

The well cured "sweets" Mr. Holton is inspecting brought $1.50 per bushel more than the going price at harvest time.

Few farmers who have raised sweet potatoes for home consumption and stored them in kilns covered by straw and soil can say they haven't had a high percentage of spoilage every year. Controlled heat and moisture are almost essential for efficient curing and storage. J. F. Barlow, Rescue, Virginia, and

Cable is laid directly on the sand floor of the storage.

S. H. Holton, Roper, North Carolina, are two of many southeastern farmers who have taken the guess-work out of this operation with electric heat.

High quality sweet potatoes are being economically cured and stored by Barlow in a 250 bushel house and by Holton in a 425 bushel house. Both farmers built their curing houses in the fall of 1953 and installed electric soil heating cable as the source of heat for curing and storage. These farmers figured the cost of curing and storing during the 1953-1954 season at 5 to 8 cents a bushel.

Barlow, in addition to farming, operates a general store. He has found it difficult to find a sufficient quantity of high quality sweet potatoes to meet the demands of his customers. By using an existing building, and with the installation of electric soil heating cable over a sand floor, Mr. Barlow was able to cure and store his own crop and part of his neighbor's.

Mr. Holton operates a row crop and livestock farm on the beautiful Albemarle Sound in North Carolina. His principal crops are peanuts and hogs. He does, however, grow a small acreage of sweet potatoes for home use. He sells his surplus to local grocery stores. By curing and storing his production, he received a more favorable price for his surplus and had a better quality potato for home use.

Although the type of construction of the two houses is quite different, the method of curing and storing the sweet potatoes is exactly the same. In both houses a layer of sand, three to four inches thick, was placed over the earth floor for insulation. Then, a sufficient amount of lead covered electric soil heating cable was laid on top of the sand and spaced uniformly to assure an even distribution of heat over the curing area. A false floor was then installed. It was made in sections, for easy handling, of 2" x 4" joists and 1" x 3" slats spaced 1" apart. The slatted floor sections were so constructed that the joists, in place, were between the runs of heating cable. Caution must be exercised so that the joists are not laid on or across the soil heating cable.

Mr. Barlow and Mr. Holton realized the following significant advantages by using electric soil heating cable over other electrical heating devices for small lot curing:

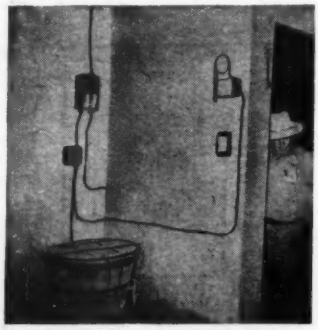
1. Simple construction of the curing house;
2. Minimum space requirement for electrical heating equipment;
3. Simple installation of heat source;
4. Minimum maintenance.

Both farmers agree that there is no better way to cure and store sweet potatoes. They found the quality of the sweet potatoes was excellent, with all cuts and scars perfectly healed. Losses from decay were negligible. They also found that the potatoes sold

Banked heat lamps provide proper curing temperature on Ulmer Elrod's farm.

from these houses averaged $1.50 above the price at harvest time during the fall of 1953.

Generally speaking, the construction cost of a family size



Mr. Barlow shown entering his storage room. The thermostat, next to the door, controls the flow of current to the fuse box, lower left, which supplies the heating cable.

sweet potato curing house will vary from $1.20 to $2.50 per bushel of storage capacity. Depending upon the size of the crop, the average farmer raising sweet potatoes for home consumption and local retail outlets can realize a full return on his investment in one to three years.

Down in Alabama, Ulmer C. Elrod, a farmer in Etowah County, uses infra-red heat lamps to cure sweet potatoes.

A number of years ago, Mr. Elrod began using infra-red lamps in his farrowing pens and simultaneously began saving extra pigs. He was so pleased with the results that when he built a 6,000 capacity broiler house a couple of years ago, he installed infra-red lamps for brooding.

This past year, Mr. Elrod built a 10′ x 12′ general purpose concrete block building. One of its proposed uses was for storing sweet potatoes. In order to provide heat for curing the spuds, he installed one of his infra-red brooders at an angle so that the heat produced was directed on the potatoes. The brooder consists of a 9 foot piece of lumber equipped with 8 porcelain receptacles, in which 250 watt infra-red lamps are used. Although the idea was new with Mr. Elrod, it was a successful one. His losses from spoilage have been negligible.

Blow Your Cares Away

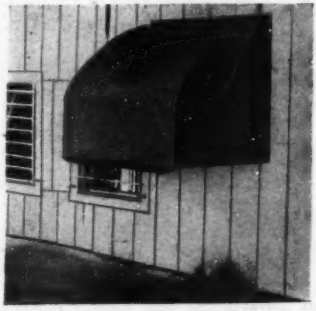
Don't Let Your Barn Deteriorate — Ventilate

By ROBERT L. MADDEX

The barn on Bob Bush's farm, near Caro, Michigan, is typical of many dairy barns in Michigan and elsewhere. There are 33 stanchions in two rows, facing in. The stable is 36 x 68 feet, with a calf pen area 15 x 24 feet along one side. The milk

Mr. Bush is adjusting the thermostat, located in the feed alley, that controls the position of the ventilating shutter. It does not turn the fan off or on.

room is on the west end of the barn, and the silos are on the north with the silo room opening into the dairy stable. The north end of the barn is in a bank, providing a drive to the mow floor. There is hay storage



A hood over the fan opening furnishes protection from the weather.

over most of the dairy stable.

Prior to ventilating, the Bush's chief concern was the deterioration of the timbers supporting the hay mow and drive floors, due largely to excessive moisture. Frost on cold days, that became dripping moisture on warmer days, collected on the sidewalls and ceiling of the stable. It was not uncommon, according to Bush, to be able to gather up a handful of moisture by cupping a hand and running it along the back of a calf or dairy cow on a cold winter day. It was hard to open the doors and windows in the stable because excessive moisture had swelled the wood. The silo chute would drip moisture and frost

Wesley Raven points to the manual cut off switch. Protection for the fan motor is provided by a low amperage time delay fuse located in the switch box.

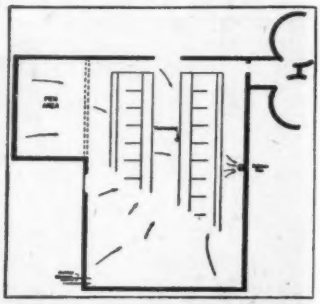
would gather in the hay chute and on the underside of the barn roof. Working conditions in the stable were unpleasant almost all the time. These conditions were largely eliminated when a ventilation system was installed in January 1953.

Bob found that he already had half of his system. Existing cracks provided adequate air intake capacity. All he needed was a forced air outlet.

Bush's exhaust system consists

of a fan set in the barn wall near the ceiling, with a high and low volume delivery, thermostatically controlled. At low volume (2400 cu. ft. per min.) air enters the fan through a duct extending down toward the floor. At high volume (4800 cu. ft. per min.) air enters directly through controlled shutters in front of the fan and also through the duct. A thermostat located in the feed alley at approximately the center of the barn determines whether the fan operates on high or low volume.

Bush has his thermostat set at 48°. When barn temperatures are near or above 48°, the fan exhausts air through both the shutter and duct. If barn temperatures fall more than two degrees below the thermostat setting, the thermostat causes a small shutter motor to close the shutters and air is exhausted through the duct, only. When enough normal animal heat has been added to the barn air to raise the temperature above the thermostat setting, the shutter opens and the fan operates on high volume again. Therefore,



Fresh air, entering through cracks, provides a uniform air movement as indicated by arrows.

temperatures are controlled within approximately 2° above or below the selected temperature. The fan runs continuously, except when it is shut off by a manual switch.

As foul, moisture-laden air is exhausted by the fan, fresh air enters around the doors to the dairy stable and through cracks along the barn wall. The crack space is pretty well distributed around the barn so that a uniform air movement without drafts takes place in the barn. The silo room door and doors to the hay chutes are kept closed except while being used.

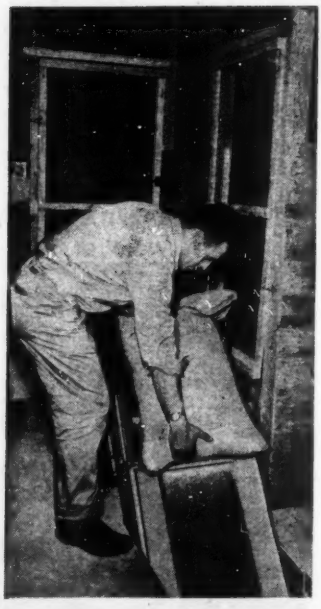
Fresh air enters over the calf pen and is drawn across the barn to the exhaust fan. This keeps the calf pen area dry and comfortable, even though there is less animal heat produced in this area.

Bush feels that he is receiving the following benefits from the ventilation system he has in his barn: better working conditions; more healthful environment for a high-producing dairy herd; longer life for his dairy building with less maintenance; and a higher level of milk production from his herd during the winter.

As stanchion-type dairy barns become tighter and dairy herd size increases, there is a much greater need for a positive and dependable ventilating system like the one in the Bush barn. Such a system provides fresh air without drafts, is a practical and profitable investment.

Simplified Poultry Feed Handling

By **BRUCE FEARN**



At Windcrest Farms, Plumsteadville, Pennsylvania, feed is elevated by power and gravity fed to the automatic feeder.

A simple, homemade conveyor consisting of two pulleys, a wide, cleated canvas belt, a gear reducer and a ½ hp electric motor raises the bags from the delivery truck gate to the second floor feed room. Here it is stacked for use.

A handy, floor level dump leads into a bin chute over the automatic feeder. With a minimum of labor this chute can be filled with a giant size supply of feed, several times the capacity of the automatic feed hopper. In this way the work is made easier and the job needs doing less often.

At Windcrest Farm two men handle and serve 6000 laying hens. Labor saving items like this conveyor make it possible.

Feed bags arrive on second floor by belt conveyor (top left). Feed is dumped through floor grate (left) to fill automatic feeder hopper extension (right) which holds a week's supply.

Potato Processing

Motors Speed Spuds to Market

By O. J. TRENARY

Needless labor and heavy lifting are taboo on the Lychman Bros. farm, located near San Acacio, Colorado. They produce, store, process and market their own potatoes in a heavily competitive market. For this reason, handling and processing equipment, using ten electric motors, has been installed to do the work of several men.

Potatoes are unloaded by a ¾ hp motor-driven conveyor in the bottom of the truck. The motor is transferred from one truck to another as they are brought in. The potatoes drop onto a conveyor driven by a ½ hp motor.

When the potatoes are harvested, they are stored temporarily in several cellars. When marketing starts, the potatoes are passed over a grader to remove the small ones that are later sold for seed. A conveyor then loads them into specially built truck beds that transport them to the cellar containing the processing equipment.

As soon as a truck arrives with potatoes for processing, a portable ½ hp electric motor is attached to the rear end of the bed. It is belted to the conveyor located in the bottom of the truck. Boards covering the conveyor are removed as the potatoes are unloaded.

As they come off the truck they are caught on another conveyor which takes them to a bulk bin that supplies the processing equipment. The speed of this conveyor is geared down to supply potatoes according to the rate at which they can be handled at the sorting table. A truck transmission is used to give the speed desired.

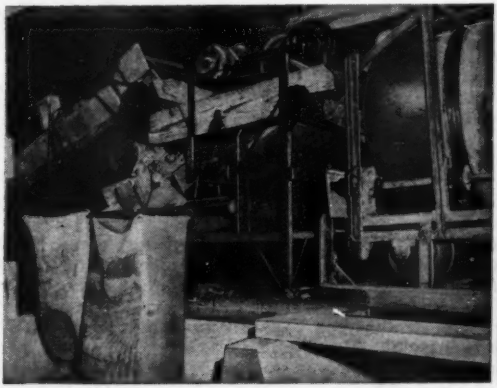
The potatoes pass from the conveyor over a grader that further removes any of the small potatoes missed in the sizer. From this grader the large potatoes pass through an electrically driven automatic washer, over an inspection table where all bruised and damaged potatoes are removed, and then down to a multiple grader.

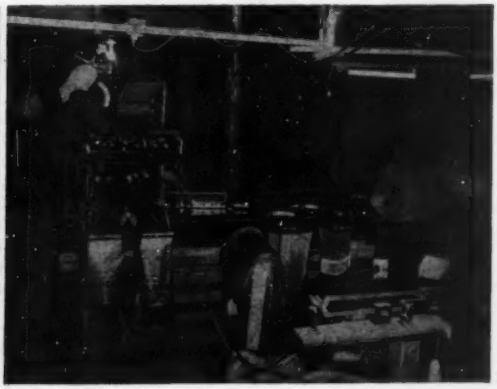
Here the potatoes are separated into various sizes. They pass on into sacks that are marked and weighed. After weighing and tying, the sacks are placed on a conveyor which takes them up to a storage room. There they are piled according to grade and weight of sacks.

Potatoes are processed and brought to this storage room only as needed to fill the market requests. They are loaded onto trucks from this storage room for market.

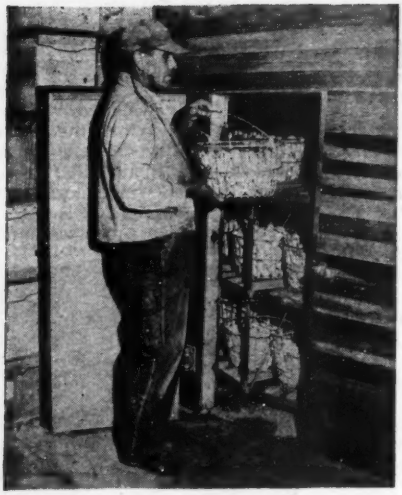
Potatoes are placed on this motor driven elevator which delivers them to storage.

It is through the use of electrically powered processing equipment that the Lyckman Bros. are able to market a uniform product at a minimum cost per bushel.





Left: Potatoes go up and over a second grader which takes out any small potatoes that were passed when the trucks were loaded. The large potatoes pass on into the washer located at the right of the picture. **Right:** Potatoes that are bruised or damaged are removed at the inspection table. The good potatoes are sorted by size and then sacked.



Easy Access Egg Storage Rack

By F. LELAND ELAM

Until two years ago, C. W. Nash of Rio Linda, California, was cooling, cleaning and packing his eggs all in one big 20 x 26 foot room. He used a humidifier cooler to lower the temperature enough to cool and keep the eggs.

At that time Nash modernized the room, dividing it into two of equal size. One is used for cleaning and packing and the other for cooling and storage. The very latest handling and cooling equipment was installed. The modernization program has brought savings in labor, more satisfied help, quicker cooling of eggs, and improved egg grades.

The storage and cooling room is enclosed with an insulated wall 4" thick and the ceiling has 6" of insulation. The interior is sheathed with tongue and groove redwood.

One of the innovations in the cooling room is a wheel type egg rack. The wheel sets in one end of the room and baskets of eggs from the laying house are placed on it through a special small door. This door is just 2 feet wide and 5 feet tall. As baskets of eggs fill a section of the wheel, it is turned. However, it turns in one direction only, so that the first baskets placed on it are the first taken off for processing. This assures all baskets of eggs a maximum cooling time, a proper step for getting better grade eggs.

Upon receipt of eggs from the laying houses, they are placed on the wheel through the small door in the wall between the cooling room and the processing room. There are 3 shelves on the wheel, which is 8 feet in diameter. It will handle 48 baskets of eggs at one time, and still have plenty of space around each basket to allow proper air circulation to get quick cooling. Each basket sets in a 9 x 19 inch opening on the two lower shelves while the upper shelf does not have dividers. However, spacing of baskets is the same. Shelves are of slats set 2 inches apart for maximum circulation of air.

This type of a set-up overcomes several disadvantages found in the former operation. The small door accomplishes two things. First, it eliminates having to go from a warm room into a refrigerated room several times while handling eggs. This has resulted in less colds and illness for the workers. Second, it makes it much easier to maintain the cold room at its proper temperature. The small door does not cause such a great exchange of air as does the large door. Temperatures in the cold room are kept at about 54 degrees by a 1½ hp refrigeration unit.

A portion of the egg rack showing eggs being placed on it through door at the left. Wheel turns to right, only, so that last eggs in are last eggs out.

This twin-fanned cooling unit is hung from the ceiling so that it will circulate cold air down through the baskets of eggs.

When the eggs have cooled, which takes about 2 hours, they are removed from the wheel through the same small door.

Nash has enjoyed a 60 per cent increase in double A eggs —to net 5 cents additional per dozen. Upping quality is one of the simplest ways for a farmer to up his income.

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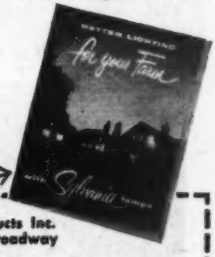

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Air Metering Duct

Solves Condensation Problem

By A. V. KREWATCH

Mr. Flanagan points to the 1½" holes spaced 6" apart along the bottom of the tapered duct. Note how the window is boxed to form the air inlet.

Fan ventilation saves labor and helps produce healthful conditions in a poultry house", is the way Russell Flanagan of Thurmont, Maryland, puts it. "How and where the air comes in is more important than where the fan is located", Mr. Flanagan goes on to explain. He speaks from experience.

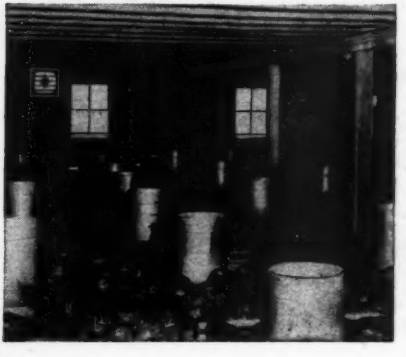
The problem of ventilation arose in his two story masonry-block broiler house. It is 40 feet wide, 140 feet long, and has two 40′ x 60′ pens on each floor, with a 20 foot central feed room between them. The walls were cold and wet during winter and conditions were far from what Mr. Flanagan wanted. So, he installed four exhaust fans, one in each section. Each fan has capacity to handle 2500 cubic feet of air per minute. But the job of adjusting windows to meter the incoming air was time consuming and the walls were still wet, even though conditions were greatly improved.

Mr. Flanagan discussed his problem with the rural service man from his power supplier, and with the agricultural engineers at the University of Maryland. Their suggestion was to provide an inlet duct for the air, so constructed that the fresh air would enter the building and flow down next to the outside wall. They thought that the dryer, cooler air, passing down across the wall surface, would keep the walls and the windows dryer. It would also act as insulation for the room by keeping the warmer, moist air of the room from reaching the wall.

It was decided to try such a plan in one of the pens. Two windows, near the center of each 60 foot wall, were opened and boxed in. From these boxes near the ceiling, tapered ducts extended both ways along the wall. In cross section these ducts measured 13•x 7½ inches at the window and tapered down to 4½ x 7½ inches at the end. They are made of plywood and have 1½ inch holes, cut at 6 inch intervals, in the bottom of them and along their entire length. At the outer end of the pen, in the center of which the exhaust fan is located, the inlet ducts extend out along the wall to within 12 feet of the fan.

With the ducts completed, all of the other windows in the pen were closed and the exhaust fan started operating. After a short period of operation there was an obvious difference between the pen with the new air inlets. The other three pens, which had opened windows only, had similarly located exhaust fans of the same capacity. Yet the walls in the pen with the inlet. duct were dry, air seemed fresher and warmer, and the litter was in better condition.

During mild, late spring weather and summer, this system helped considerably in keeping the room cool. Mr. Flanagan is so pleased with the results that he plans to equip the remaining three pens with this kind of air inlet for the 1954-55 winter season. With the tightly built masonry houses that are becoming more common, we can no longer rely on air entering a building through cracks around doors and windows and even between boards, as has been common with wooden buildings. Ventilation is a must for thrifty poultry, and fresh air must be provided. That means adjusting windows to the weather conditions, which is time consuming, or installing some self regulating inlet. Mr. Flanagan's plan seems to solve the problem.



Mr. Flanagan was pleased with the good gains, and good feed conversion of the broilers in the trial pen. The other three pens will have similar inlet ducts.

Each pen in the house has an exhaust fan like the one shown here. An automatic shutter eliminates back drafts when fan is not operating.

It wasn't TOO long ago, when we were kids, that TEN cents would buy QUITE a LARGE sack of chocolate drops. Gosh! HOW DIMES have changed! . . . . Before we got hep, we THOUGHT that ALOHA was a kind of a berth you got on Hawaiian trains. (Caw!) . . . One of the BEST ways known to get into trouble is to be RIGHT at the WRONG time . . . . POLITICIAN: a fellow who PITS his HALO and WINGS against his OPPONENT'S horns and tail . . . . CIDER—It MUST be HARD to SELL . . . . SODDEN THOUGHT—if you're TOO busy to LAUGH—then you're TOO busy . . . . CAR: something that will last YOUR LIFETIME if YOU'RE CARELESS enough . . . . A PAWNBROKER is a fellow who takes GREAT INTEREST in serving the POOR . . . . BUS CHIVALRY: a STANDING JOKE . . . . PATIENT: "Doc, HOW can I EVER repay you for your kindness to me?" DOCTOR: "By check, postal order or cash." . . . . Hudson Newsletter describes a CAVEMAN as a fellow who gives his girl thumping to remember him by . . . . SNICKERSCOOP-OF-THE-MONTH: A woman who was on trial for murdering her husband was finally acquitted because of the efforts of one little old lady on the jury. After the trial she explained her attitude: "Well, I GUESS I just felt sorry for her. After ALL she WAS a WIDOW." . . . . PUTTERING: woman's word for men's work . . . . There is NO money that talks LOUDER than HUSH money when it FINALLY gets its voice back . . . . OREN ARNOLD in "WOMAN" sez that FEMININE CHARM is like GARLIC—HEAVENLY if not overdone . . . . OLD-SAW-WITH-NEW-TEETH: A fool and his money—are INVITED PLACES . . . . EVERSTOPTOTHINK? — IF there were NO listeners there would be NO liars . . . . Friend of ours got his teeth smashed while playing tennis the other day. THAT'S one way of losing a SET . . . . LIMERICK DEPT.: There once was a fellow UNIQUE, Who imagined himself QUITE a SHIQUE, But the gals didn't fall FOR his line at all—'CAUSE he ONLY made TWENTY a WIQUE . . . .

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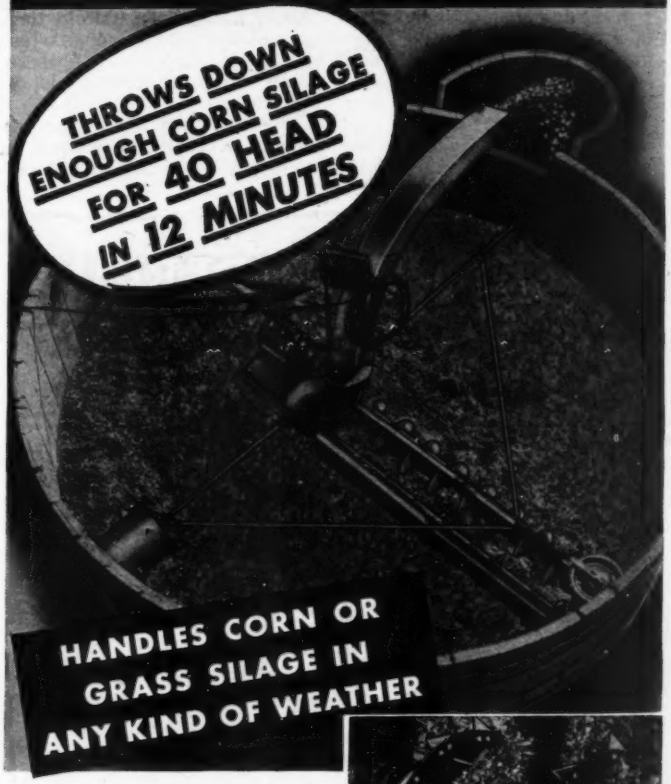

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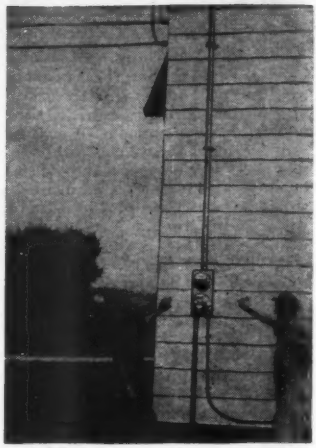
Rewiring that Paid for Itself

By DALLAS ALSUP

The amount of electric energy purchased dropped 20 per cent when new wiring was installed on the Ralph Hunt farm near Traverse City, Michigan. For the four months before the change, he purchased 3554 kwhr. After rewiring, his first four months' purchases were 2854 kwhr and these last four months included December, January, February and March, the coldest and darkest of the year.

"I knew that my wires were too small," Mr. Hunt said. "I could tell it because the lights blinked every time the water pump started and because the milker had a hard time getting started on a cold morning. What I didn't realize was that these small wires were wasting a lot of electricity.

"Probably the wires were big enough when they were put in to supply all the lights the house needed and that is all they were used for, but now things are different. It's been 15 years since the windmill blew down and we put a motor on the water pump. When we got the electric range we added a third wire and bigger switch box. But mostly the wires were the same as they had been for years.



This new service resulted in a saving in the amount of electricity purchased.

"It was when we got the new milk cooler that I began to realize the trouble I was in. The dealer didn't even want to guarantee it. He was afraid it would burn out due to low voltage. So I called my power supplier.

"Their farm service advisor put his finger on the trouble when he said, 'Your wires are too small to carry the electricity to do the work required. When the current goes through the wire some of it is lost into the air as heat. If the wires are big enough this loss is not enough to be important. But with small wires the loss is so great there is insufficient power to carry the load. If you will put in bigger wires your equipment will not only run much better, you'll also save money because that loss will be greatly reduced.'

"It didn't make sense to me that the power supplier would tell me something that could cut my electric bill but I had to do something. I started at the power entrance, putting larger wires in conduit down to the new meter sockets and from them direct to

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CREWS, WITH PIKE POLES WORK TO KEEP THE SLUICE GATES CLEAR OF FLOATING ICE. BUT WHEN DEEP FREEZE SETS IN, THE FLEET GOES INTO ACTION.
TO KEEP THE WATER INTAKES CLEAR, SOME UTILITIES MAINTAIN POWERFUL TUGBOATS. ON AROUND-THE-CLOCK PATROL THEY CRUNCH THEIR WAY THRU THE WINTER ICE TO ASSURE A STEADY FLOW OF WATER & THE ELECTRICITY IT PRODUCES.

the house, barn, shop and yard light. I used that new type of wire that can be buried in the ground. Size of wire in the power entrance is No. 1; in the circuits to barn, shop, etc., it is No. 4.

"We completed the rewiring the first of November. Our October bill had been for 954 kilowatt hours. In November it was 716 followed by 758 in December, 688 in January and 750 in February.

"Of course at the price of electricity it will take a long time to pay for the wiring by the amount saved. But everything works better. Lights burn brighter without blinking.

"This year we're putting in a new farm shop with a welder, grinder and other shop tools. We think the shop will cut down a great deal on our machinery costs and realize it would have been impossible to even consider it without the new wiring.

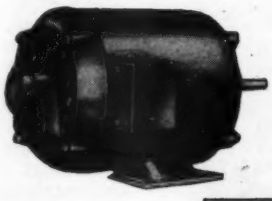
"But I'm still not sure the wires are really big enough. They are big enough for now—I put in #4—but I wish they had been #2. The cost of the wire is only a small part of the cost of rewiring."

Comfort in the Egg Room

Jack Sabel, owner of a 5000 leghorn flock in Hammonton, New Jersey, has put infra-red heat lamps, usually found in the brooder house, to a new use. A sufferer from arthritis, Sabel has had to consider the problem of how to make his cold, damp cellar, which is ideal for eggs, sufficiently comfortable as a place for him to work.

Infra-red lamps provided the solution. He uses two 250 watt lamps. One, about 30 inches from the floor, is placed behind him and sheds comforting warmth over his shoulders. The other is about 18 inches from the floor near his feet, keeping them warm and dry. For insulation from the damp floor, he uses a rubber mat covered with a layer of straw under his feet.

FRANCIS AXELRATH.



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Washable Electric Blankets

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Electric bed covers, such as blankets, sheets, quilts, and mattress pads, are becoming popular for year-round use. Their automatically regulated warmth induces relaxing sleep whether it be an icy winter night or a chilly summer morning.

Washing instructions on blankets call for hand laundering to prevent wire injury. Dry cleaning cannot be used, as it causes damage to wires. But, hand washing is discouraging because of the difficulty of handling bulky, wet blankets. According to recent tests, electric bed coverings may now be laundered in a washer and dryer with satisfactory results. The washer must be controlled as to running time and have facilities for spinning off water. Some shrinkage will result from laundering them in the washer. These electric bed covers should receive special care to eliminate the necessity of frequent laundering.

All types of electric blankets were used in test runs. In temperatures up to 150° F. in the washer and 175° in the dryer, wiring and thermostats were not injured. The bulk of bed covers protected the terminals, thus eliminating the necessity for protecting each one individually.

Standard methods for washing and partially dryer drying regular (non-electric) blankets were used in testing the 75%, 50% and 25% wool electric blankets. Some moderate shrinkage did occur, corresponding to the amount of wool in the blanket. Since wool is not essential for warmth in this type of bed cover, the lower percentage wool blanket is best from the standpoint of less shrinkage in laundering.

Blanket bindings had a tendency to streak from bleeding of the dark dye into the water. This was eliminated by increasing the spin time.

High heat is recommended for tumble drying in a preheated dryer. It removes the moisture more rapidly and cuts the drying period. Upon removal at the end of the 15 minute drying period, the blankets were placed over a line, laid on a flat surface, or plugged in to finish drying by their own heatng devices (this took about 4 hours). It is not advisable to stretch electric blankets, owing to possible damage to wires.

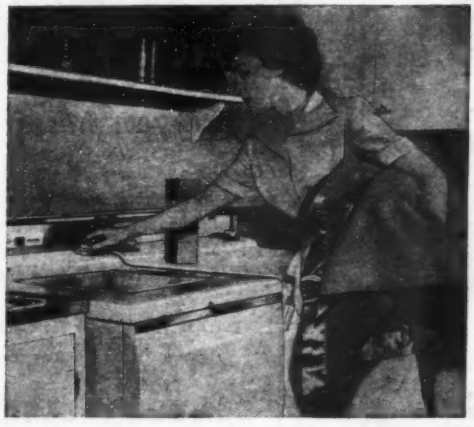
Recommended times and temperatures are as follows:

1. Fill the washer with 100° F. or lukewarm water. Higher temperatures caused greater shrinkage.
2. Add water softener and mild soap or detergent, agitating to dissolve.
3. Add blanket and soak for 10 minutes. Any soiled parts should be treated before placing in the washer. Brush with a paste of the washing compound used and water.
4. Agitate for 1 minute.
5. Spin out water for 2 minutes.
6. Fill washer with 100° F. or lukewarm water.
7. Agitate for 1 minute.
8. Spin out water for 2 minutes.
9. Preheat dryer 5 to 10 minutes on high heat.
10. Add blanket and buffer towels and allow to tumble 15 minutes or until partially dried. Remove and finish drying.
11. Brush lightly to fluff.
12. Iron bindings.

Electric sheets and mattress pads were washed in a regular cycle with a 6 minute wash period, using hot water of 140° F. for white sheets and 100° to 125° F., or warm, for pastel and printed sheets and mattress pads.

Electric sheets were thoroughly dried in the dryer and showed only a slight shrinkage. Mattress pads, because their quilting causes puckering resulting in excessive shrinkage, were only partially dried on high heat for 20 minutes. For completing the drying, the same methods as those given for electric blankets are recommended.

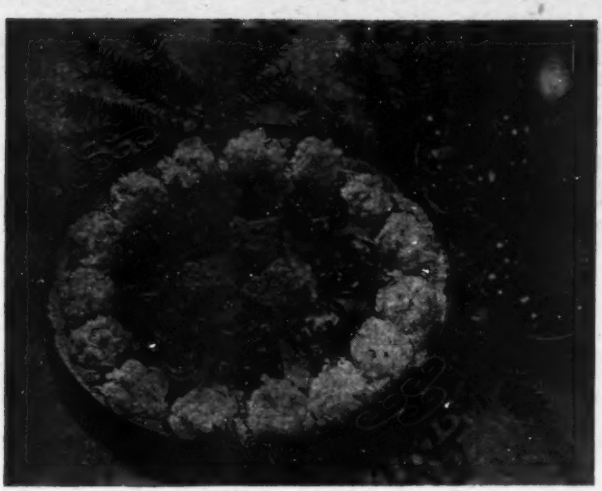
The modern and convenient electric way of warmth for sleeping can now be yours without the worry of washing and drying by hand.



Electric blankets, wired mattress pads, and electric sheets can be safely washed at home in an automatic washer with flexible controls that let the homemaker shorten or skip part of automatic cycle.

There's Fun

in Making, Eating, and Decorating with Cookies



Welcome your holiday guests with a plate of assorted cookies. These melt-in-your-mouth goodies convey the Christmas spirit.

Anticipation, excitement, thrills! These are all a part of the preholiday season. Hand in hand with all this excitement goes the fun of making sweet morsels of cookies that are so much a part of Christmas. They serve as tidbits for guests, gifts for friends, and decorations for the tree.

Most homemakers are looking for new cookie recipes to add variety to their tried and true ones. To aid them in their search the electric company in Milwaukee, Wisconsin, has a yearly pre-Christmas display of cookies. Following are some of their most popular ideas and recipes.

One of the most interesting is the story book cookie tree. Not only your children, but all who come to visit will be enchanted with this bit of fairyland. Mary's little lamb, three little kittens, puss-in-boots, three bears, snowman with the candy heart, Bambi, Raggedy Ann, cock horse, three little fishes, and Christmas symbols are just a few of the many cookies you will want to make.

You do not need cookie cutters to make all these. Simply select the characters from reading or coloring books. Then trace them with carbon paper on cardboard. Trace all figure trimmings so that you have a handy guide for decorating and marking expressions.

Lebkuchen dough is used for light cookies and gingerbread for dark figures. Lay cardboard figures on rolled dough and cut around pattern with sharp end of a darning needle. Use the dull end to make light indentations marking facial expressions and other characteristics.

After baking, frosting and other decorations are added. The frosting is colored with vegetable coloring to suit the type of story book character. Expressions and decorations are added to complete the appearance. An easy way to add frosting trimmings is to use a small paper cone from which the tip has been cut off. Colored balls, coconut, decorating candies, tiny candles, and frosting dots are used for decoration. Here is an opportunity for you to try your artistic skill. The youngster will also enjoy helping with this job.

After the cookies are frosted, wrap them in pliofilm, cellophane, or saran and tie with colored ribbon to hang on the tree.

A story book fairyland comes to life on this Christmas tree. Decorated cookies patterned after story book characters are wrapped in clear plastic and tied with ribbons to the tree. The young guests' eyes will sparkle as they select their favorite for a take-home remembrance of their visit.

Lebkuchen

1½ cups light corn syrup
½ teaspoon soda
¼ cup lard
2 cups all purpose flour

Heat corn syrup, soda, and lard together. When hot add enough flour to thicken (about 2 cups). Cover and keep in a cool place for several days. After the aging has taken place, allow to soften and continue as below.

½ cup butter
1½ cups sugar
¼ teaspoon salt
1½ teaspoon baking powder
½ teaspoon cinnamon
¼ teaspoon cloves
1¼ teaspoons salt
4½ cups all purpose flour (or enough to make stiff dough)
½ cup chopped almonds
½ cup chopped citron
2 eggs
½ cup sour cream

Cream butter and add sugar gradually. Combine with first mixture which has softened. Sift soda, baking powder, spices, salt, and 2 cups flour together. Flour almonds and citron with some of the remaining flour. Add well beaten eggs and sour cream alternately with dry ingredients to the creamed mixture. Add citron, almonds and remaining flour to make a stiff

dough. Let stand a day or two in a cool place. Before rolling allow to soften at room temperature. Roll to ⅜ inch thickness. Cut in desired shape. Place on greased cookie sheets. Bake 350°F. about 15 to 20 minutes or until delicately browned. Makes 4 to 5 dozen depending on size.

Gingerbread Cookies

¼ cup boiling water
½ cup butter
½ cup brown sugar
½ cup molasses
3 cups all purpose flour
1 teaspoon soda
1 teaspoon salt
½ teaspoon ginger
½ teaspoon nutmeg
½ teaspoon cloves

Pour water over butter and add sugar and molasses. Mix well. Add dry ingredients sifted together. Chill thoroughly and roll. Cut into desired shapes and place on greased cookie sheets. Bake 375°F. about 10 minutes. Makes about 4 dozen.

Frosting for Cookies

2 egg whites
1 cup powdered sugar
Food coloring

Beat egg whites until stiff using high speed of electric mixer. Turn mixer to medium speed and slowly add powdered sugar. Beat well. Put small amounts of frosting in custard cups. Add a drop or two of food coloring or a combination of them to make desired color. Blend. Keep covered with a damp cloth. (If frosting gets too hard, add a few drops of water.) Frost and decorate the cookies.

Ranger Macaroons

1 cup butter
1 cup brown sugar
1 cup white sugar
2 large eggs
1 teaspoon vanilla
2 cups all purpose flour
1 teaspoon baking powder
1 teaspoon soda
1 teaspoon salt
2 cups cornflakes
2 cups quick cooking oats
1 cup coconut
1 cup chopped pecans

Cream butter and add sugar gradually. Cream well. Add eggs and beat well after the addition of each. Add vanilla. Sift flour, baking powder, soda and salt together. Combine all dry ingredients. Add to creamed mixture and blend well. Form into small balls and place on greased cookie sheet. Bake at 375°F. 12 to 14 minutes. Makes about 6 dozen cookies.

This little kitten will not lose his mittens. They are securely tied to him with ribbons, and hang below. After the cookies are decorated they are wrapped in cellophane, pliofilm, or saran and tied with ribbons. These ribbons may be green to blend in with the tree or bright colored to accent the cookie. The ribbons are used to tie the cookie to the tree.

Toffee Squares

1 cup butter
1 cup brown sugar
1 egg yolk
1 teaspoon vanilla
2 cups all purpose flour
¼ teaspoon salt
½ pound sweet chocolate
½ cup chopped nuts

Cream butter and add sugar gradually. Beat well. Add egg yolk and vanilla and blend. Add flour and salt, blending to moisten the flour. Spread in a rectangle about 10x13 inches on a greased cookie sheet. Bake at 350°F. about 20 minutes. While slightly warm, spread with melted chocolate. Sprinkle with chopped nuts. Cut into small squares. Makes about 6 to 7 dozen.

Bon Bon Cookies

1 cup dates, ground
½ cup walnuts, ground.
½ teaspoon vanilla
2 egg whites
⅛ teaspoon salt
⅔ cup sugar
½ teaspoon vanilla
Red and green food coloring.

Combine finely ground dates, nuts and vanilla. Form into balls about ¾ inch in diameter. Beat egg whites and salt until stiff using high speed of mixer. Add sugar gradually to egg whites, using high speed. Beat well and add vanilla. Divide meringue in half. Tint one portion green, the other pink. Using 2 teaspoons, roll balls in meringue. Swirl top. Place on greased cookie sheet and bake 250°F. about 30 minutes. Makes about 30.

Dandy Snaps

½ cup dark molasses
½ cup butter
1 cup all purpose flour
1 teaspoon ginger
¾ cup sugar
¼ teaspoon salt

Heat molasses to boiling. Add butter and cool slightly. Sift flour, ginger, sugar and salt together. Add to molasses. Drop by ½ teaspoon, 3 inches apart, on a greased cookie sheet. Bake 350°F. about 10 minutes. Remove from cookie sheet as soon as they come from the oven. Shape into rolls over handle of a wooden spoon. Work quickly. If cookies harden before being shaped, put back into oven for a few seconds to soften. Makes 7 dozen.

A Christmas Salad

Here's a colorful salad, that's just as tasty as it is pretty. And it fits right into the red and green color scheme of Christmas. It's also easy to make and may be prepared ahead of the eventful day.

For four servings use 4 tart apples, 1½ cups sugar, ¼ teaspoon salt, ½ cup red cinnamon candies, 3 cups water, ½ cup cottage cheese or 3 to 4 ounces cream cheese, and ¼ cup chopped green pepper.

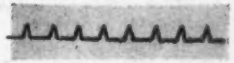
Pare and core apples. Add sugar, salt, and red candies to water. Put over heat and stir until dissolved. Cook apples slowly in this sirup in a covered pan until just tender, turning occasionally to color evenly. Drain and chill. Mix cheese with green pepper and stuff apples. Serve on watercress or other salad greens.

THE MOST FABULOUS GIFT A WOMAN COULD WISH FOR...

The Astonishing New Swing-Needle **SINGER** Automatic

Automatic Zigzagging—for satin stitch, script, appliqués, buttonholes, setting in lace.

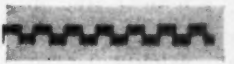
Automatic Multiple Zigzag—for mending, joining lapped seams, applying binding.



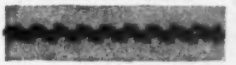
Automatic Blind Stitch—for making "invisible" hems, overedging, sewing in zippers.

Automatic Scallop Stitch—big or small, for fancy edging, embroidery, collar trim.

Automatic Arrowheads—for decorating children's clothes and table linens.



Automatic Dominoes—for monograms, borders that would take hours by hand.



NEW! Twin Needle—also comes with Automatic. Sews with two different color threads *at once.*

These are only a few of the stitches you can do on the new SINGER® Automatic with "FASHION® Discs."

Does 101 stitch variations as simply as it sews a straight seam!

Here is a machine so modern—so *different*—you'll have to see it in action to believe what it can do.

It's the new Swing-Needle® SINGER Automatic Machine. It not only does finest straight sewing . . . it does almost any decorative stitch *completely automatically.*

Stop in; try it. See how it takes hard work, handwork, guesswork out of sewing.

It's the *newest* member in the famous SINGER family which have been Christmas favorites for over 100 years.

SINGER SEWING CENTERS

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Make Shopping Easy

By Selecting Electrical Christmas Gifts

What better place to look for a suitable Christmas gift for each and every family member than in the electrical field! And it's so easy, too! You do not have the problem of guessing a size or of shopping around for ideas. From electrical appliances, small housewares, lamps, tools, and miscellaneous items you can find one that is sure to bring a gleam to the eye of the receiver whether he or she be six or sixty. And the best part of the gift is that it is lasting and will be a reminder of your good wishes for many 365 days ahead.

Not only will the homemaker be thrilled to be on the receiving end of a new appliance, but the family will benefit from it and enjoy sharing its use. It may be a new one or a replacement for one that has served its time.

For the kitchen there are refrigerators and freezers with greater storage capacity in a minimum of space, ranges with increased cooking speed, dishwashers with greater cleaning powers, and waste disposal units providing freedom from garbage worries.

Laundry drudgery is eliminated by the companions-washer and dryer suited to use with all types of fabrics. Also as laundry aids there are many types of ironers and temperature controlled dry and steam irons.

The variety of lamps plus the comfort and pleasure they give to a room and its occupants make welcome gifts.

Let's not forget the new controlled heat dry and steam travel irons for the travelling family member or the college daughter.

Some of the many small electrical gifts are from top to bottom: automatic steam travel iron, corn popper, frying pan and hair clippers.

Even the college man can make good use of a steam iron for keeping that trim appearance. Or maybe, he would enjoy a small electric presser for renewing creases or removing wrinkles in trousers, lapels, etc.

An electric water heater to provide plenty of hot water could be a family gift. All can enjoy it whether it be for a hot shower, dishwashing, laundry, or just washing hands.

Another welcome family gift is a TV set, radio, or phonograph; either in combination or separate. For individual gifts there are a wide variety of radios and record players. Each will provide hours of pleasant family relaxation.

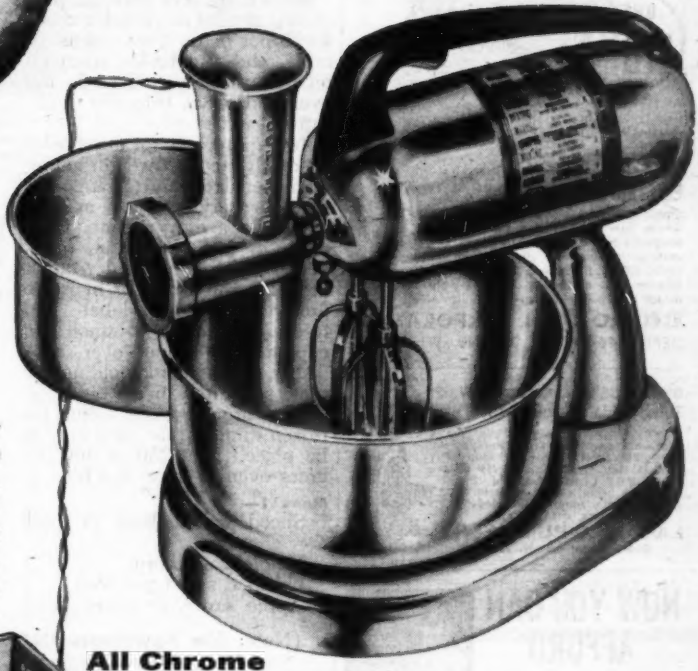
As we go to the small appliances we find a vast selection available. They are not only labor saving, but also provide time for other duties. Some of this group may be classified as table cookware. Many a meal can be prepared at the table, mostly with controlled cooking. These aids are selected according to family use and activities. Electrical table cookware includes toasters, grill and waffle bakers, coffeemakers, hot water servers, chafing dishes, food servers, and heat trays. Other cooking appliances include deep fat fryers, cooker fryers, broilers and rotisseries, roasters, casseroles, frying pans and saucepans.

Next let's consider preparation and kitchen help appliances. These are the ever ready servants that not only release the user from tiresome duties, but also produce outstanding products. This group includes food mixers with or without attachments, portable mixers, blenders, juicers, drink mixers, coffee

. . . . . (More on page 34)

There isn't a woman who wouldn't be thrilled to find a new electric sewing machine under the Christmas tree.

Dazzle Your Dear on Christmas with DORMEYER



It'll be Christmas for your wife all year long when she has Dormeyers like these. They're great time and work-savers . . . great for making foods taste better than ever, too! Both, fully guaranteed.

Approved by Underwriters' Laboratories, Inc.

All Chrome
SILVER-CHEF Mixer and Grinder

The only all chrome mixer! Has 2 lifetime stainless steel mixing bowls; grinder and pestle. Mixing head is portable. Has 10 speed dial selector, 2 nickel chrome beaters. Quiet, durable motor. Free recipe book included. Model 4300 **$52.75**

Extra Capacity FRI-WELL

It's a fryer, a cooker *and* a roaster with 6-8 portion capacity. Improved side *and* bottom heating. Automatic thermostat with temperature guide. Sturdy fry basket. Faster drain-away faucet. Flat bottom for easier stirring and cleaning. Cook book included. Model 6000 **$29.50**

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PROFESSIONAL-TYPE ELECTRIC
HAIR CLIPPER

At Your Barber, Beauty Shop or Dealer's

Cadet
ELECTRIC HAIR CLIPPER

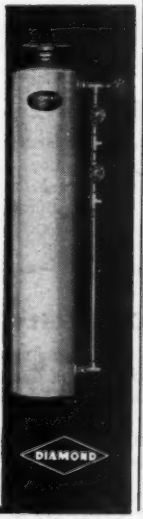
Saves time and money for the whole family! Has cool-running magnetic motor; fine-tooth blade for close cutting; streamlined plastic case. 110v 60 cycle AC; fully tested by UL. If your barber, beauty shop or dealer cannot supply you, order direct on 10-day money-back guarantee.

ELECTRO TOOL CORPORATION
DEPT. C464-M • RACINE, WISCONSIN

DRAINS Cellars, Cisterns, Wash Tubs; Irrigates your Garden, etc.

"TYPE P" Pump has 1,001 year 'round uses—house, garden, farm. Pumps 2400 GPH, 360 GPH 75' high or 1500 GPH from 25' well. Use 1/6 to 3/4 HP motor. DOES NOT CLOG! Postpaid if cash with order (West of Miss. add 50c) motor coupling included.
MONEY BACK GUARANTEE
LABAWCO PUMPS $6.95
Belle Mead 49, N. J.

NOW YOU CAN AFFORD
Soft Water



Diamond Jr., a nationally-recognized, fully guaranteed 30,000 grain, soft water unit . . . is yours for only $88. Large, 50,000 grain size only $132.

Shipped completely assembled and ready for immediate installation. Simply attach to water lines, and you can enjoy all the luxury, all the convenience, all the savings . . . of owning your own soft water system. For circular giving complete information write

Oshkosh
Filter and Softener Co.
Oshkosh, Wisconsin

Freeze Your Own Dinners

They'll Save Time, Fuel and Food

By LOLA H. LEHMAN

If you have missed your favorite TV program because dinner had to be prepared and put on the table you will appreciate this suggestion, by Mrs. Harve Hollis of Piggott, Arkansas. Package and freeze your dinners.

Frozen dinners may be purchased at most markets for about $1.00 per plate. They consist of meat, and vegetables arranged on a tray ready to heat in the oven and serve. Why not duplicate them?

It is quite easy for any homemaker to use light-weight aluminum pie plates and arrange the food in servings just as you would on a dinner plate. Each plate is an individual meal. When the food is cool wrap it in foil, saran wrap, or moisture proof celophane, label and freeze. If you wish, small foil cups may be shaped over sauce dishes and used for holding the foods separately on the pie plate.

Here are suggested menus for frozen dinners that need only to be placed in a 250 to 300 degrees oven to thaw and heat.

Menu 1—
Sliced baked ham or pork chops
Whole grain corn
Candied sweet potatoes
Apple sauce or raisin sauce

(Note: For New Years Day use black eyed peas instead of the corn—this is for good luck during the year.)

Menu 2—
Baked Chicken or turkey, dressing and giblet gravy
Cinnamon apples or baked apples
Peas and carrots
(Canned cranberry sauce may be served in place of apples)

Menu 3—
Sliced roast beef or meat loaf
Green beans
Scalloped potatoes
Cooked prunes
A frozen pie can be slipped into the oven at the same time. This will complete any meal, even to a dessert.

Here Mrs. Hollis is placing the trays in the freezer. This tray is a fried chicken meal.

Mrs. Hollis is filling trays for frozen dinners. This menu is pot roast of beef, green beans, and whole grain corn. A frozen pie will complete this meal.

All foods are prepared just as you prepare them for serving on the table. After a trial we think you will be planning to cook extra amounts in order that a meal for the family may be frozen. Can't you see a saving here of food, fuel for cooking, and the homemakers time?

Of course, you will use these frozen dinners for quick company dinners or on any occasion when time to prepare a meal is limited. You will find that most prepared meats, vegetables, and fruits will freeze. Just use your favorite recipes. Let your knowledge of meal planning be your guide in preparing these dinners.

Albert Haidar, holds the nine-pound capon which his wife has taken out of their home freezer and will soon be on its way to Haidar's nephew in Egypt. "A chicken this size is certainly going to surprise Hassan," says Mrs. Haidar. "Their chickens, we understand, don't grow over three or four pounds."

Voyage of a Frozen Chicken

By FRANCES AXELRATH

Because of the miracle of modern freezers, a chicken grown on Five Oaks Farm, Hammonton, New Jersey, has gone straight to Alexandria, Egypt. And with the chicken were a couple dozen delicious brownies made by a Hammonton homemaker.

Here's how it happened: Mr. and Mrs. Albert Haidar, who operate a poultry farm, recently entertained a ship's purser as a dinner guest. He is a friend of their nephew, Hassen Schoib, secretary of the Khedival Mail Line of Egypt. The dinner included roast chicken which drew special praise from the guest.

"Wouldn't it be nice if Hassen could have a piece of this chicken?" someone said.

"Why not? Let's send him some", Mrs. Haidar quickly responded. Consequently, Mr. and Mrs. Haidar went to their freezer and selected a chicken for the trip to Egypt. They also included some homemade frozen brownies for good measure.

Upon the purser's return to the ship that evening, he placed the chicken and brownies in the frozen food locker. At the completion of the journey they were placed in the hands of Hassen Schoib. And it was good eating for Hassen in this miracle age of electricity.

Freeze small quantities of leftover cooked meats until enough is on hand for a stew or hash for some future meal.

Now you can stop worrying about RAW MILK DISEASES

Have SAFE Pasteurized Milk with HOME HEALTH HOME PASTEURIZERS

Milk from tested cows, handled with the best of care, may still contain germs causing undulant fever, typhoid fever, polio and other diseases. Home-Health Pasteurization destroys these harmful bacteria but doesn't destroy nutrition of milk or spoil its flavor. You can pasteurize milk in your own kitchen.

ONLY HOME-HEALTH OFFERS TWO, EASY TO USE, SIZES

FOR LARGER FAMILIES. A two gallon pasteurizer that's compact and light-weight. Positive bacteria kill without loss of flavor. Dual heat principle. Just turn it on . . . it's automatic. Laboratory tested.

FOR SMALLER FAMILIES. Popular one gallon size gives same positive pasteurization. Accurate timer-thermostat. No watching or stirring. Convection Heat Principle. Both models guaranteed for one year . . . Underwriters approved . . . Accepted for advertising by Am. Medical Assn.

FREE FOLDER Get the facts on milk-borne diseases and their prevention through pasteurization. Write

WATERS CONLEY COMPANY, INC.
Dept. E Rochester, Minnesota

Tell your dealer you saw it in ELECTRICITY ON THE FARM Magazine

Coal-Wood-Electric Baking with DIALED Heat

Just set the dial at the oven temperature desired. Electric heat is added automatically to the coal-wood heat to *hold* oven at the heat set! Takes the guesswork out of baking. No more constant fire-watching. Cooking top is half coal-wood, and half electric. See your Monarch dealer or write

Monarch SINCE 1896
MONARCH RANGE CO.
7024 Lake Street
Beaver Dam, Wis.

What Would You Say?

CONTEST

Here is a contest the whole family can enjoy. Cash Prizes will be awarded for the best suggestion for a fifth line to complete the verse at the bottom of this page. Lots of fun and you may win $25 cash.

RULES—DECEMBER CONTEST

Seven cash prizes will be awarded for the best last line to complete the verse in the coupon below. Your suggestion should rhyme with the second line.

The first prize will be $25; the second prize $10. In addition, five consolation prizes of $3 each will be awarded for the best line furnished.

In case of a tie, each winning contestant will receive the full cash prize to which he or she is entitled.

All members of the farm family to whom this magazine was sent may enter but each contestant may submit only one line.

Question "A" must be answered.

Entries must be sent to the Contest Editor, ELECTRICITY ON THE FARM Magazine, 8 So. Dearborn Street, Chicago 3, Ill. before January 5.

The decision of the judges is final and all entries become the property of ELECTRICITY ON THE FARM Magazine.

Winning names and entries will be announced in the March 1955 issue.

Send your entry on the coupon or make out a similar form on a plain sheet of paper or government postcard.

Go buy an electric range
You'll like the economy change
When the weather is hot
Your kitchen is not
? ? ? ? ? ? ? ?

My suggestion for a last line to the above verse is:

.....

(A) What new electrical farm equipment and home appliances have your family obtained in the last three years? (Identify by brand name.)

.....

.....

.....

.....

My name is.....

R.F.D......**Post Office**.....

County.....**State**.....

Awards For August-September Contest

'Tis Monday and raining galore
But I laugh as I watch at the door
With my clothes in the dryer
My spirits are higher
? ? ? ? ? ? ? ? ?

The Winning Last Lines

FIRST PRIZE—$25 CASH

"They will sparkle despite the downpour"

Mrs. J. Grady Stone
P. O. Box 557
Oneonta, Alabama

SECOND PRIZE—$10 CASH

"Wind and weather I now can ignore"

Mrs. Carl Gibbs
Elmwood, Illinois

Five Consolation Prizes—$3 Each

"Than the clouds watts let me ignore"

Mrs. I. L. Gardner
Willimantic, Connecticut

"Than the clouds that caused this downpour"

G. Russell Drumm
R.F.D. 2
Denver, Pennsylvania

"For me weather-watching is o'er"

Chester F. Meyer
R.F.D. 1
Richfield, Wisconsin

"No wash-cluttered house, as of yore"

Timothy Lemke
R.R. 2, Box 57
Kaukauna, Wisconsin

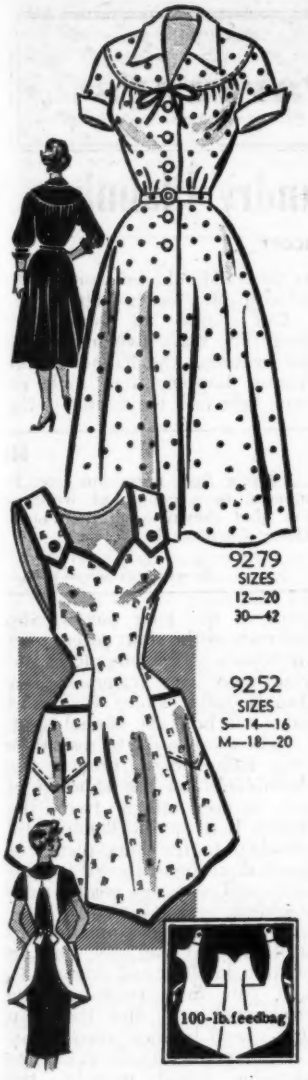
"No waiting for sun's rays to explore"

Miss Elizabeth A. Buker
R.F.D. 2
Auburn, Maine

Honorable Mention

George Bertrand, Mountain Top, Pennsylvania; Mrs. William A. Cleveland, Versailles, Kentucky; Albert Dayton, Greenfield, Indiana; Mrs. A. J. Fisher, White Sulpher Springs, Montana; Mrs. Nerdie Hall, Berea, West Virginia; Harvey W. Hayden, Sufield, Connecticut; Kenneth Hoskins, Goodview, Virginia; Frank H. Lovvorn, Carrollton, Georgia; Mrs. Ken Lyons, White Bear, Saskatchewan; Mrs. Wm. J. McCarty, Bad Axe, Michigan; Mrs. N. L. Moorefield, Spencer, Virginia; Carol Ostrom, Williamsfield, Illinois; Paul E. Rodman, Iron Mountain, Michigan; Mrs. Louis Schleifer, Providence, Rhode Island; Mrs. Richard Schrag, McPherson, Kansas; Maude S. Shoemaker, Waterloo, Indiana; Harold Starrett, Bagley, Minnesota; Wilbert Stoltenberg, Walcott, Iowa; Mrs. Charles Sutcliffe, Mason City, Iowa; Rowena Taylor, Van Alstyne, Texas.

The verse for this month's Rhyme Contest was furnished by one of our readers, Mrs. Amy E. Walters, R.R. 2, Shoals, Indiana



Sewing Duo

9279—This is a dress you'll live in—it's casual, comfortable, new in every line! Misses' Sizes 12-20; 30-42. Size 18 takes 4¼ yards 35-inch fabric; ¾ yard contrast.

9252—Sew—simple apron with nonslip straps, plenty of cover-up! Misses' Sizes Small (14, 16); Medium (18, 20). All sizes, 100 lb. feedbag or 1¼ yards 39-inch fabric.

Send THIRTY-FIVE CENTS (in coins) for EACH pattern to: ELECTRICITY ON THE FARM, 233 Pattern Department, 243 West 17th Street, New York 11, New York. Add FIVE CENTS for EACH pattern for 1st-class mailing.

IN CANADA: 60 Front Street, Toronto, Ontario

STOP
Frozen Water Pipes
With Electric
LINE-O-HEAT
SAFER • MORE DEPENDABLE • MORE ECONOMICAL
WARM WATER FOR HOT PROFITS!
Automatic WATER WARMER
U/L approved. Keeps water at 50° day & night. Gives you 12 more & bigger eggs per hen. Easy to use. Safe. Costs less than an egg a day to operate. $5.55.
Automatic WATERING FOUNTAIN
Best on market. Only one with no-freeze protection to 0°. Fault-free, rust-proof. Fountain (guard included): $8.95. Heater: $4.95. Both only $11.20.
CAN STAND ABUSE AND STAY IN USE!
Keeps water running even at -50°. Toughest. Best. Easy to use: wrap around pipe, secure with tape, plug in. Guaranteed. 3 to 60 ft. Priced from $2.45.
Write for FREE Literature
SMITH-GATES CORP.
DEPT. L1 PLAINVILLE, CONN.

Freezer Hints

A study has shown that the drip—the blood-like fluid which exudes from frozen meat when it thaws—contains about 88 per cent of the B vitamins of the meat. You can see how important it is to collect and use the drip obtained when frozen meat is defrosted.

Keep a cooky box in your freezer. Line a cake box with metal foil and fill it by layers with cookies. Cover each layer with metal foil, close box cover, and freeze. It's easy, then, to remove as many cookies as you need when you want them.

Freeze small quantities of left-over cooked meats until enough is on hand for a stew or hash for some future meal.

DON'T RISK INFECTION FROM RAW MILK
Wonderful NEW Esco QWIK-WAY
HOME PASTEURIZER
• Pasteurizes in 15 minutes
• Completely automatic
• Fully guaranteed
Same principle used in commercial dairies. Preserves full natural flavor and sweetness of milk. Sanitary milk container removable for quick cooling, storing in refrigerator. Aluminum and stainless steel construction; compact, lightweight, easy to clean. No moving parts, no timer to set.
1 gal. size
At your dealer's, or write for free folder.
$28.95
Full 5 qt. capacity
ELECTRONIC SPECIALTIES CO., INC.
1 Island Avenue, Batavia, Illinois.

Electro-Line
ELECTRO-LINE FENCING
Doesn't "Cost" ... IT PAYS!
Electric fencing will help you get the most from your land.
Electro-Line controllers will help you get the most from your fence!
A Controller for Every Fencing Job.
ELECTRO-LINE PRODUCTS CORPORATION
Saukville, Wisconsin

Make Rain while the Sun Shines

Throughout the world Rain Birds' rain-making dependability is a long established fact. Their matchless performance and trouble-free operation are the result of 19 years of intensive research and development.

Be sure the sprinkling system you get meets American Society of Agricultural Engineers standards and fits your requirements exactly.

Our research and planning department is at your service. Consult us without obligation.

Member Sprinkler Irrigation Ass'n.

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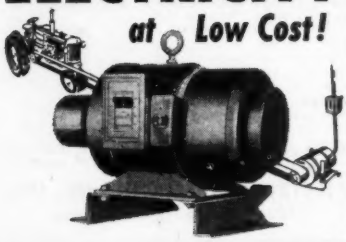
RAINY SPRINKLER SALES
609 WEST LAKE ST., PEORIA 5, ILLINOIS

EMERGENCY ELECTRICITY at Low Cost!



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for Junior Partners

Kitchen and Laundry Planning

By R. T. SCOTT

A flannelboard is one of the best tools you can use to give an illustrated talk. Here are some suggestions on how to develop flannelboard talks on kitchen and laundry planning, for group demonstrations.

To start off, you'll need a flannelboard. Actually, it takes the place of a blackboard or an easel. If a piece of flannel is stretched on a frame, other pieces of flannel, pieces of sandpaper, or other rough surfaces will cling to it. Paste a piece of flannel or sandpaper on pictures, lettering, or whatever you want to use in your talk and you can almost throw them at the board and have them stick. Yet they may be lifted off or rearranged with ease.

For demonstrations, a portable flannelboard four feet long and about three feet high is excellent. The width of the flannel you buy will determine its height. If you use 35" material, your board will be 33" high.

From 1" x 1" lumber cut two pieces 4 feet long and two pieces approximately 3 feet long. They should be 2" shorter than the width of the flannel. Both ends of the 4 foot pieces should be cut back to a depth of 1" to leave a tenon as in Figure 1. Both ends of the shorter pieces should be mortised to a depth of 1" as in Figure 2.

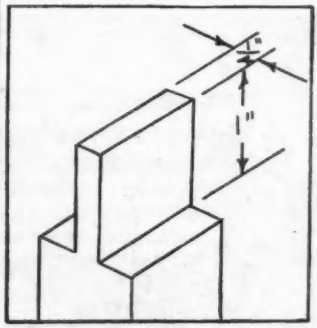

Figure 1.

Cut a piece of flannel 50" long. The extra two inches are for fastening the flannel to the frame. Lapping one inch on each side, tack the flannel to the sides of the long pieces. Slip the ends of the short pieces over the tenons on the long pieces and you have your frame. A few thumb tacks along the short sides will hold the flannel tight.

When you want to dismantle your flannelboard, remove the thumbtacks on the short sides and remove them from the frame. Roll up the flannel—still attached to the long pieces of wood. Your flannelboard is portable and can be easily reassembled.

In developing your demonstration, you can lay out an existing kitchen and analyze it. You can then rearrange the equipment and find the plan that would be most convenient.

A flannelboard talk on kitchen planning could include: the three work centers, the flow of work, and the seven basic shapes for kitchen planning.

There are three basic pieces of kitchen equipment: the refrigerator, the sink, and the range. A work center is developed around each of these pieces of equipment. The food storage and preparation center is keyed to the refrigerator, the cleaning and dishwashing center is planned around the sink, and the cooking and serving center around the range.

To use a flannelboard to tell

Hi

There's just room for me to squeeze in a couple of words—I'm glad they're such nice ones. Merry Christmas!

Kenneth V Anderson

the kitchen planning story, cut out pieces of lightweight cardboard to represent the three major pieces of equipment as they would look from above. With a flannelboard 4 feet long and 3 feet high the pieces of cardboard representing the equipment should be scaled down to about one-fifth their actual size.

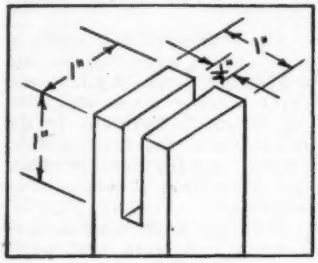

Figure 2.

Here is a list of equipment along with approximate sizes and dimensions for the cardboard cutouts:

	Approximate Size of Equipment	Approximate Size of Cardboard
Refrigerator	36"x30"	7"x6"
Range	42"x30"	8"x6"
Dishwasher		
Sink	48"x30"	9"x6"
Sink (Single Bowl)	24"x30"	5"x6"
Sink (Double Bowl)	42"x30"	8"x6"

In addition to planning for the location of the equipment, you must plan on work counter area. If possible, the food storage and preparation center should include about 5' of work counter between the refrigerator and the sink. The cleaning center should have about 2½' of counter on each side of the sink. On one side of the sink this can be included as part of the 5' already suggested for the preparation center. The cooking and serving center should have a minimum of 1½' of counter area on each side of the range.

You will need pieces of lightweight cardboard to represent the work counter sections. Pieces 2½" x 6" would represent one foot sections of counter, pieces 3½" x 6" would represent 1½ foot sections, and pieces 6" x 6" would represent 2½ foot sections.

After the pieces of cardboard are cut, pieces of felt or sandpaper should be cemented to the back of them.

Some points you'll want to bring out in your demonstration are:

Work Flow in the Kitchen

In a kitchen, the normal flow of work is from food storage and preparation to cleaning and dishwashing, to the cooking and serving center—and eventually to the table. Most people work from right to left and the work should flow in that direction, if possible.

Work flow can be indicated on a flannelboard with small pieces of cardboard cut in the shapes of heads and tails of arrows with string between them. The cardboard should be backed with flannel or sandpaper to make it cling to the board. The string will cling as it is.

Desirable Features

The counter space in the preparation center should provide, if possible, a continuous surface from the refrigerator to the sink. The cleaning and dishwashing center is usually located between the preparation-storage center and the cooking-serving

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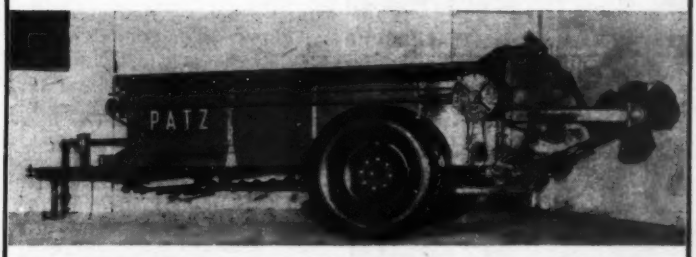

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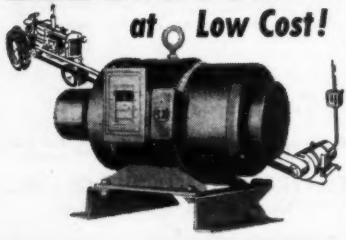

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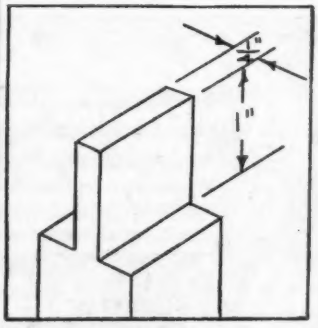

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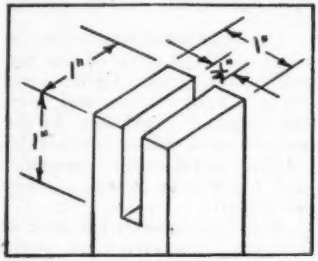

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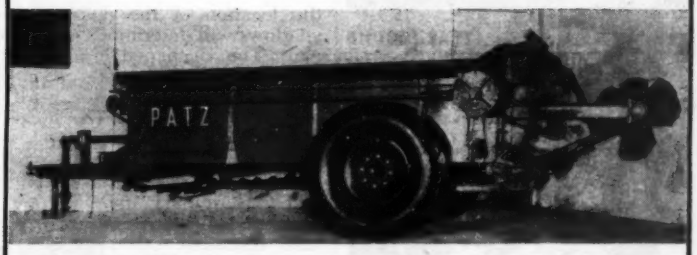

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center since the sink enters into both operations. The cooking and serving center should include storage space for cooking utensils and serving dishes and equipment. It should also be located as near as possible to the dining area.

Basic Kitchen Shapes

The seven basic kitchen shapes are shown in figure 3. They can be demonstrated with flannel backed cardboard using seven pieces 10" x 1½" and ten pieces 5" x 1½".

The shape of the room and

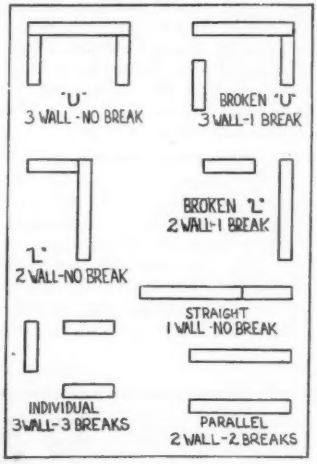

Figure 3.

the location of the doors and windows will determine the best plan. The U shaped kitchen is the most efficient, and a continuous counter from one work center to another is the ideal arrangement.

Spacing

To assure maximum efficiency and convenience there are certain distances between appliances that should be maintained. Between the refrigerator and sink the distance should be 4 to 7 feet. Between the sink and the range 4 to 6 feet should be allowed, and between the range and the refrigerator 4 to 9 feet. Pieces of cardboard with lettering and strings on each end could be used to illustrate this principle on the flannelboard.

Laundry Planning

Laundry planning is another possible subject for an interesting illustrated talk.

Work in an automatic electric laundry falls into three major tasks that suggest work centers: preparation of clothes, washing and drying, and ironing. On the flannelboard you can show how the laundry work should flow from the preparation center to the washing and drying center and to the ironing center.

The equipment to consider in planning the laundry is the water heater, sink, washer and dryer, electric ironer and ironing board. In addition, in the ironing area you may consider adding a table for sprinkling and for storing clothes as they are ironed.

Here are some basic sizes of laundry equipment that might be useful in developing cardboard shapes that could be used in telling the laundry planning story with a flannelboard:

	Approximate Size of Equipment	Approximate Size of Cardboard
Water heater		
to 40 gals.	25" dia.	5" dia.
to 80 gals.	30" dia.	6" dia.
Sink and work surface	60" x 35"	12" x 7"
Washer	35" x 35"	7" x 7"
Dryer	35" x 35"	7" x 7"
Ironer	54" x 40"	13" x 8"
Ironing board	15" x 54"	3" x 13"
Finishing table	21" x 50"	4¾" x 10"

In addition to the space needed for the equipment as outlined above, you would have to plan for about 30" of space between the ironing board and the finishing table. The ironing board position should be

"Turn on the heater in the stock tank. I think it's frozen over."

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planned with the ironing board coming out from the wall.

Additional Hints

As the water heater should be located as near as possible to the point of maximum use of hot water, it is planned as part of the laundry area.

The laundry preparation center should include ample counter space. This is where sorting and some mending is done, where stains are removed, and where other preparations are completed before washing.

It is rarely practical to have a straight, unbroken laundry area along one wall. Nor is the straight-along-a-wall layout the most convenient. The most important part of laundry planning is to maintain a good flow-of-work arrangement.

Two Good Shop Projects

Here are two ideas you may find useful in your shop. One is a grindstone that was mechanized by adding a ¾ hp electric motor, a countershaft and some pulleys. A hinge arrangement on the motor base keeps pressure on the V-belt drive. Note the section of an old automobile tire that serves as a water trough, keeping the stone wet. A pair of old lawn mower wheels make the rig portable. Simple, isn't it?

In selecting pulleys for such an installation, plan on a speed of about 400 surface feet per minute for a natural sandstone wheel. In revolutions per minute, this is equal to 400 divided by the circumference of the stone. Multiplying the stone's diameter (in feet) by 3.14 will give you the stone's circumference.

A grindstone like this is easier than cranking and better for the tool.

The second idea is an electric fan over the stove in your farm shop. It will spread the heat to all parts of the building. As the heat rises upward directly over the stove, it is picked up by the currents made by the fan and circulated throughout the building. In no time at all the entire shop is comfortable. Both pictures were taken on the John W. Brown farm, Whitehouse, Ohio. Rob Aiken

That small fan over the heater will distribute the warm air throughout the shop.

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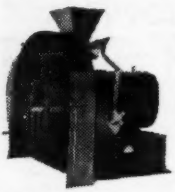

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Questions and Answers

Protection For Plumbing

▶**Question:** *I have plumbing installed under my house, in an 18 inch crawl space and wish to keep it from freezing in severe weather. Could you suggest some method?*
J. N. S., Ohio

▶**Answer:** For protection from freezing, we would recommend the use of heating tape or cable applied directly to the pipe and controlled by a thermostat. In addition to the installation of the heating tape or cable, you should insulate the pipe after the cable has been applied. This can be done by boxing it and filling with insulation or by using sections of cellular pipe insulation. The thermostat should be installed with the cable, to turn it on when temperature drops to a danger point.

Dryer Operating Cost

▶**Question:** *How much does it cost per hour to operate an electric clothes dryer?*
Mrs. G. L., Maine

▶**Answer:** Clothes dryers are usually rated at about 4,500 watts. Therefore, they will use approximately 4½ kwhr for each hour of operation. In a test, which was conducted for a 2 year period on an Iowa farm, just 21 kwhr per month were used by the clothes dryer.

Generator-Charger

▶**Question:** *I would like to have information on a battery charger made from a ¼ hp motor and an automobile generator.*
T. M., Indiana

▶**Answer:** For operating a motor generator for battery charging, the grounded lead from the generator is attached to one terminal of the battery and the lead from the cut-out relay terminal to the other battery terminal. An ammeter is installed in this line. The wire runs from the relay to one of the ammeter terminals and from the other ammeter terminal a wire continues on to the battery terminal.

The battery should be charged at the rate recommended by the battery manufacturer. Where this recommendation is not available, a good rule is to charge at ⅛ of the battery ampere hour rating which is usually marked on the battery. The rate of charge can be determined by the ammeter reading.

The charging rate of generators is controlled by the speed of operation, by placing resistance in series with the generator field windings, or by adjusting the third brush. The last adjustment is least desirable and should be used only as a last resort, since the factory setting is usually best. The first method, that of controlling the speed, is the simplest and most desirable. A step pulley on the motor provides an easy method of changing generator speed. Pulleys of the same size on a motor and generator will operate the generator at maximum output, but will require a larger motor than ¼ hp. A smaller pulley on the motor will

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reduce speed and output of the generator.

Most automotive generators reach maximum output when driven at 1700 to 2000 rpm. However, to prevent overheating, it is not desirable to operate them at maximum output. Automotive generators are designed for operation in an air stream which you do not have under farm operating conditions. A ¾ hp motor has not sufficient power for maximum output, nor is it desirable to charge a battery for a long period of time at too high a rate.

To determine the polarity of the generator, so that you may know which lead goes to the positive terminal of the battery and which goes to the negative terminal, start the generator and hold the leads one inch apart in a weak salt water solution. The lead which gives off bubbles freely is the negative lead and should be connected to the negative terminal (the smaller post) of the battery.

Stock Feed Cooker

▶**Question:** *How do stock feed cookers work?*

L. W., Michigan

▶**Answer:** Stock feed cookers operate much like a double boiler. Being electrically heated, they are thermostatically controlled and have an on-off time control to vary the length of cooking. Grain and water are put in, the controls set, and the cooking takes place automatically, usually overnight. The cookers are mounted in trunnions and can be tipped to pour the cooked feed.

Kennel Heat

▶**Question:** *We have a large hunting dog. We do not like to bring it in the house in the winter as we have no basement. Is there a way of heating a dog house so that it will be warm in average winter weather and in near zero occasionally?*

Mrs. E. A., Michigan

▶**Answer:** It is possible to heat a dog house with practically any type of electric space heater. Electric radiators, thermostatically controlled space heaters, or infra-red lamps directed on the dogs would provide ample warmth. Or you might wish to make a cement floor for the dog house and embed soil heating cable in the cement. This would provide a warmed floor. For efficient operation the dog house should be thoroughly insulated and it should be provided with a door. This all sounds rather complicated and does make rather a major project.

Actually, we question the value of heat for a dog. If they are provided with a good, tight shelter, with a dry floor, their coats will provide ample insulation to keep them warm in temperatures that go down to zero. If a dog is to spend his time outdoors, he will often acclimate himself better, and probably be healthier, if provided with the latter type of kennel.

Sterilizer and Septic Tank

▶**Question:** *We have two cisterns. I would like some information on an ultra-violet water sterilizer or a chlorinator. Would either one be harmful to our septic tank?*

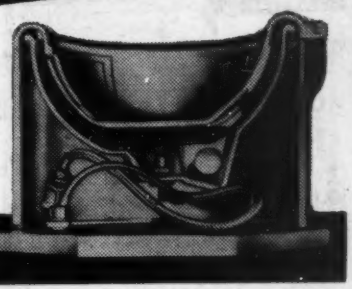
H. S. T., Pennsylvania

▶**Answer:** Neither an ultra-violet water sterilizing unit nor a chlorinator will have any harmful effect on a septic tank. They both will provide you with safe drinking water, if properly installed and operated in accordance with the manufacturer's instructions.

For All Livestock!
NELSON WATER BOWL

the ultimate in year 'round watering!

ONLY one moving part—no floats, levers, or springs to jam because of rust or corrosion. Provides clean, fresh water in summer; warms water in winter for 2¢ a day because thermostatically controlled electric heating element heats a mere bowlful instead of a tankful. Stainless steel and aluminum alloy construction. Completely automatic. Safe!



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NELSON MFG. CO.
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Guaranteed to make you ADDITIONAL PROFITS

NEW HABCO Gated Aluminum FLO-MORE PIPE IRRIGATION PIPE

Roll formed, fusion welded for main line, or combines with any sprinkler system. Costs less.

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420 bu. cap. bin, hopper, augers, positive feed system-leveler. Save all your crops. Custom work makes you money too!

Write Dept. E-1 for Literature

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GUARANTEED!

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WITH
Dayton
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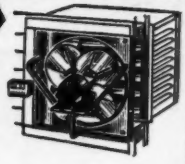

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EASY WAY
135 TO 180 BU. PER HOUR

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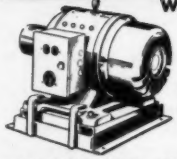

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WINPOWER
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Make Shopping Easy

(Here from page 22)

grinders, ice cream freezers, and knife sharpeners.

Comfort is important to every man, woman, and child. A comfort electrical appliance makes life worth living not only from the health standpoint, but as sick room aids. And what are they? They are electric bed covers—sheets, blankets, and mattress pads; portable heating units—heating fans, heaters and radiators; lamps—sun and infra red; heating pads; and vaporizers.

Lamps make a room more comfortable and pleasanter. There's one for every room in the home from living room table and floor lamps to special study lamps, dresser and dressing table pairs, bed lighting units, pin-ups, and night lights. The variety of styles and designs provides one to fit any type of decoration from the nursery to the most formal room. Or have you thought of giving a new light fixture? Better lighting for reading and working is important to good living.

Also designed to conform to the room is a wide selection of electric clocks. Even the young one will be pleased with his own individual alarm clock. There's one to suit each family member.

Mother and daughter will be thrilled with a new electric sewing machine. This may be a portable or console machine of either plain sewing or fancier stitch type, depending on kind of sewing the user does.

Everyone is interested in looking his or her best. To help in putting the best foot forward, hair dryers, hair clipper sets, and massagers are available. And to please the man of the house, if he isn't already an enthusiast for it, there's an electric shaver. Its companion, a ladies shaver, will be a welcome gift for the feminine side of the household.

Cannister or upright vacuum cleaners are available in many types to make cleaning a snap. Other cleaning appliances that belong on the gift list are portable cleaners and floor polishers.

Dad comes into his own with the various shop and welding tools. The rest of the family may share in this fun with tools that adapt themselves to hobby activities. These gifts should be selected from the use and interest angle. There are power tools, jigsaws, drills, and combination workshop units.

A step saver for both Dad and Mother is an intercom sys-

You'll make someone very happy if you include a coffeemaker on your gift list this season.

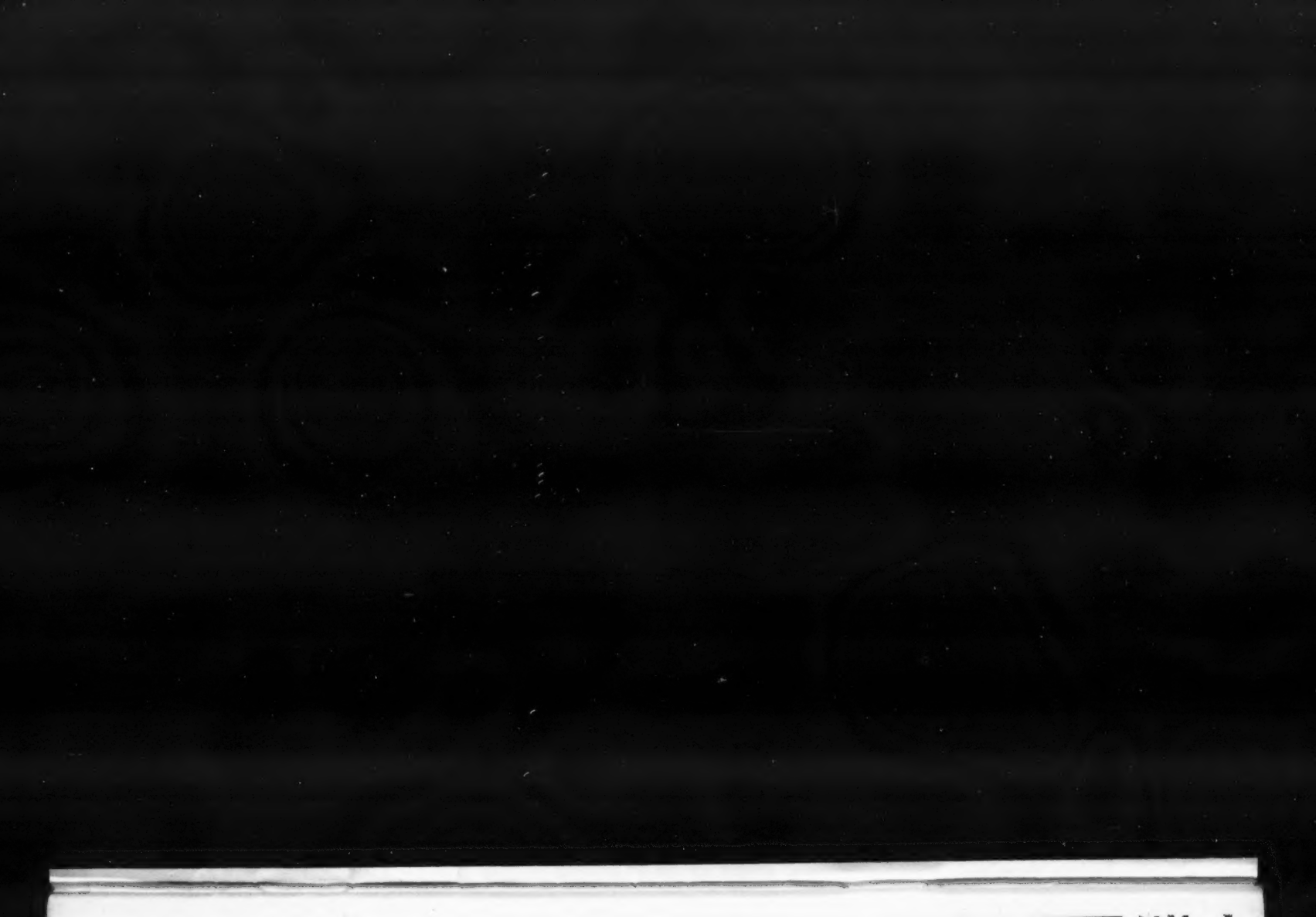
tem. It may be room to room, house to barn, or house to milkhouse connection.

For the young fry we can't forget the toy grouping, which includes trains (not only for junior but Dad, too), wood burning sets for the crafter and small appliances for little mother. Corn poppers, providers of tasty snacks, will also be welcomed by the younger set.

Make this an electrical Christmas for Mother, Dad, Sister Sue, and brother, too. Happiness will be the keynote. The joys of the receiver from this everlasting gift will be shared with the joys of the giver from the ease of shopping.

Make light of your troubles; if not, keep them dark.

"Pop yells about the electric bill every time I forget to turn off the bath room light. But time and time again *he's* let the light in our chicken house burn *all night!*"



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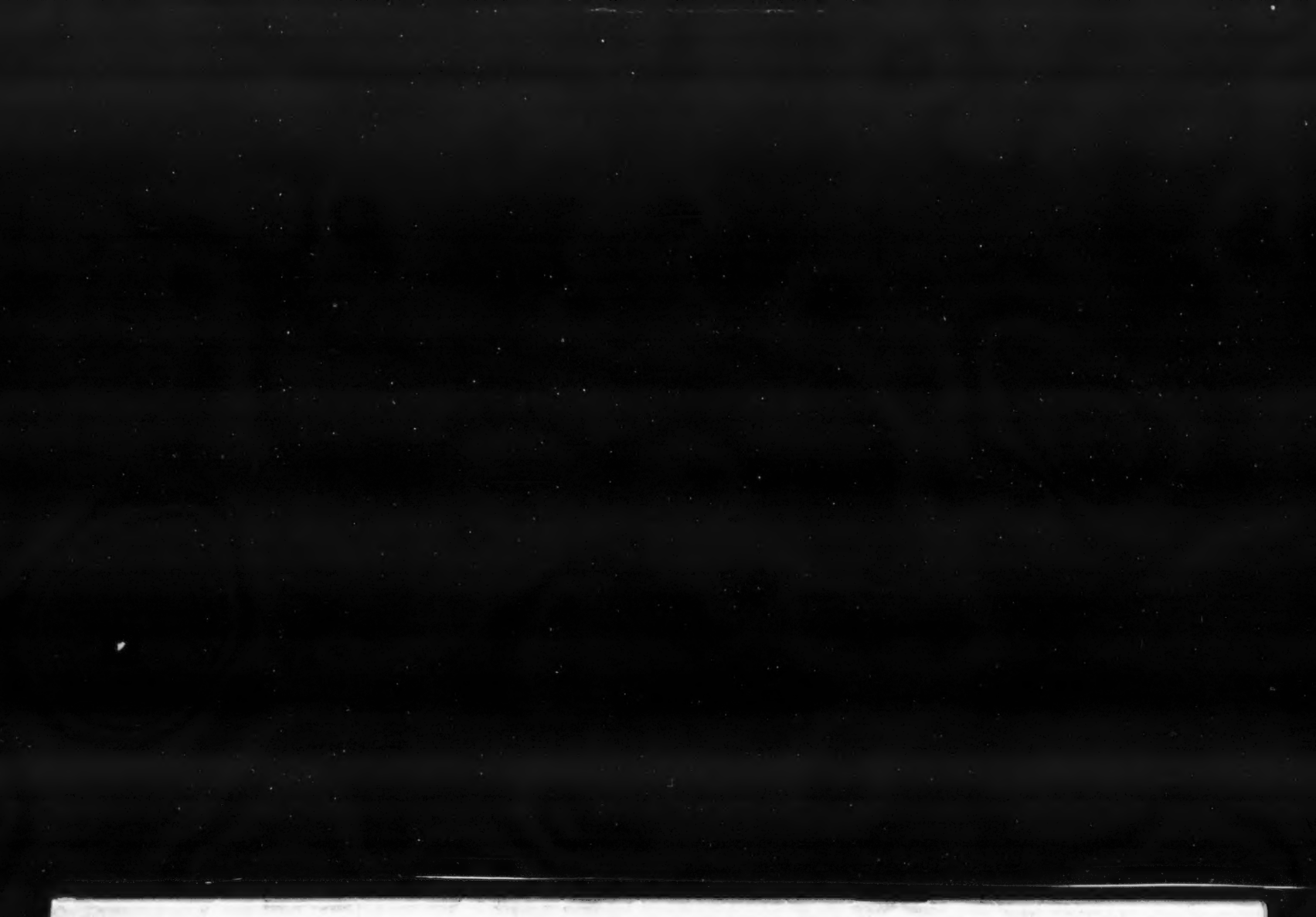
As the cheery voices of your friends and neighbors send out their holiday greetings, we join in wishing you happiness and good fortune. Here's a special "thank you" too, for the privilege of serving you in 1954. In the year ahead, we will do our best to earn your continued confidence. Merry Christmas and a Happy New Year!

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